

ReportNumber 001  
Month January  
Year 2003

**Welcome to the first activity report from the Savannah River Site's Radiological Technology Center (RTC).**

The RTC has come a long way since May. There are currently 37 vendors participating in the center. In order to provide our users an introduction to items currently on display, we have developed the attached set of slides. As new equipment is added, the slides will be updated. In addition, a website is currently under development.

We have tried to lay out this report in a user-friendly manner. Please let us know if you have any comments or suggestions for improvements.

**Recent Assistance and Research Items:**

The staff has been working with Facility Decontamination and Decommissioning personnel on M-Area and C-Area activities. Two HEPA vacuums have been purchased - one Nilfisk GM-625 for Building 340-M work and one VT-60 for the 105-C plastic shredder. In both cases FDD took the display units from the RTC and purchased replacements.

The RTC assisted F-Tank Farm with the selection and purchase of HEPA vacuum accessories and new Desco dustless tools and accessories for their existing tools.

The RTC assisted the Health Physics Technology Whole Body Count facility with selection and procurement of a small HEPA vacuum for their shielded chest counting rooms and research information for portable decon showers for use with the mobile counting vehicle. In addition, the Radiation Monitoring Group in HPT was assisted with a shielded collimator. A prototype was constructed of inexpensive materials and using Ecomass tungsten pellets as the shielding material.

The use of cerium nitrate as a decontamination solution is being researched for use on stainless steel. Rocky Flats has been using this material to decon gloveboxes and tanks to low enough levels that they are no longer classified as TRU waste and thus do not need to be size reduced for shipment to WIPP. We have talked with Rocky Flats, the Hanford ALARA Center and are contacting additional personnel at Rocky Flats and at Los Alamos for more information. Briefing information is available at <http://www.wpi.org/Initiatives/2002/20021002.asp> and [http://emeso.lanl.gov/useful\\_info/achievements/summaries/2002/sum9-9-02.htm](http://emeso.lanl.gov/useful_info/achievements/summaries/2002/sum9-9-02.htm). When additional information is available, a brief report about our findings will be issued.

The staff is researching filters to be used in waste bags for the Containment Fabrication Facility. Nuclear Filter sells individual filters and we will be getting samples of these to try. FYI - Nuclear Filter has opened an office in the Savannah River Research Park which will be run by Brent Dougherty who is an ex-SRS Solid Waste employee.

The RTC will be presenting a paper at the Waste Management 03 conference in Tucson in February. The Hanford ALARA Center personnel will not be attending WM'03 but will be at the January ALARA conference in Orlando. Vendor information and contacts will be gathered at each conference and shared. This type of assistance is important to both SRS and Hanford.

The RTC assisted DWPF with obtaining Bartlett PBS fixative which was used to coat the DWPF spent melter storage box prior to movement from the process building to the storage vault.

The RTC provided samples of the following Chesterton chemicals to several SRS maintenance shops: 274 Industrial Degreaser, 276 Electronic Component Cleaner, 292 Precision Degreasing Solvent, 388 Synthetic Tapping Fluid and 390 Cutting Oil. These chemicals can be used with the Chesterton Environmental Spray System (ESS). The ESS offers the convenience of an aerosol but the product cans are refillable, safe, and allow purchase of bulk chemicals while using air as the propellant. The system is cost effective and minimizes environmental and worker safety issues associated with standard aerosol products. The RTC is currently awaiting user feedback on the material and has some additional samples of other shops are interested in testing.

The RTC provided Central Labs with alternatives for shielding a drain line vent pipe near the installation site for a personnel contamination monitor. Products suggested included Radishield lead or tungsten materials or standard

lead blankets.

#### New Vendor Information, Equipment and Visits:

A variety of Taskcom1 equipment from David Fried of Comtronics has been received. The equipment has been in use in FB-Line for some time. It is inexpensive equipment that allows users to communicate via a direct connection. David has supplied a variety of headsets including a hearing protection unit. This equipment is best seen and tried rather than explained in words. Stop by and check out the equipment or contact Sean Barr at (803) 952-2710 to discuss his experiences with the equipment.

Earl Jacobson of Nuclear Power Outfitters (NPO) visited the RTC. NPO manufactures lead blankets, hanging blanket racks and frames and a variety of other shielding and radiation protection materials. Earl has left some literature and will be supplying additional information and equipment for display.

Arthur Desrosiers and David Kinsey of Bartlett Services visited the RTC for a tour and to see what additional information and/or equipment would be a good addition to the materials they currently have on display. They will be supplying information about their portable ventilation units and a display on Excel scaffolding. A demonstration Sonatol unit which was constructed under contract to DOE has also been received. We will let everyone know when we have assembled the unit and it is ready for demonstration.

A small quantity of Ecomass tungsten polymer pellets has been received. These pellets are an excellent replacement for lead shot applications.

As an additional option to the EZ Reach tools the RTC has received a set of Niptongs. Sold by Biodex, the Niptongs have a maximum grip capacity of only 1" but is a narrow tool that can fit into confined areas.

The center also has on display lead vinyl blocker sheets from Pacific Northwest X-Ray with a lead equivalence of 0.5mm which is the same as the typical lead vest. These sheets come in a variety of sizes, are coated for easy decon, are extremely effective for shielding plutonium materials and are inexpensive. They may have a variety of applications including small can shields and possibly shields for the new Handecount scalars.

In addition, the SRS representatives for two of our Radiation Monitoring Equipment vendors will be changing. Mike Shepherd of ThermoEberline is moving to another district and Terry Moore will be taking his place. Keith Doran of Canberra is leaving the company and his replacement has not yet been named. We wish Mike and Keith the best of luck in their new jobs and look forward to working with Terry.

We hope this report has been informative and worthwhile and we look forward to your input.

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ReportNumber 002  
Month January  
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**Welcome to the 2nd activity report from the Savannah River Site's Radiological Technology Center (RTC) covering activities through 1/31/2003.**

Athena Freeman has joined the RTC team. She will continue her Site ALARA Coordinator duties as well as assisting the Center. Welcome Athena!

**Recent Assistance, Research Items and Tours:**

The staff has been working with Facility Decontamination and Decommissioning personnel on M-Area activities. A Nilfisk Model VT-60 HEPA vacuum has been purchased to attach to a dustless tool for scabbling concrete in 313-M. The initial focus is to determine how much concrete needs to be removed for successful decontamination. To expedite work activities, FDD was given the vacuum on display in the RTC and a replacement was ordered.

The RTC received feedback from DWPF on their use of Bartlett's Polymeric Barrier System (PBS) during the removal of the spent melter. DWPF Radiological Controls personnel used PBS on the lid of the melter storage box prior to movement from the Railroad Airlock. Rather than spend a minimum of 10 hours in elevated dose rates to decontaminate the box lid, the PBS was quickly spread to fix the contamination. The contamination levels prior to PBS application were approximately 60,000 dpm/100 cm<sup>2</sup> b-g and after 1 coat were less than 1,000 dpm/100 cm<sup>2</sup> b-g based on handheld instruments.

Members of the RTC staff visited Bluegrass Concrete Cutting to witness a demonstration of the Marcryst Concrete Shaver. The shaver employs diamond impregnated blades to cut a 9.75" wide path. The resulting surface is smooth compared to conventional scabbling, the blades can cut through imbedded rebar, it cuts a uniform thickness in one pass and the shaver connects to a HEPA filtered vacuum for waste collection and elimination of airborne activity. Along with the shaver, two different Nilfisk vacuum systems were demonstrated: a CFM 3707 and a CFM 137. This equipment can have a significant impact on the decontamination of concrete surfaces. The RTC plans to write a separate trip report on the shaver in the next few weeks.

The RTC assisted F-Tank Farm with the selection and purchase of Nilfisk HEPA vacuum accessories and new Desco dustless tools and accessories for their existing tools. The purchase of a Descoblator and needle gun, as well as new vacuum attachments for the Descoblator, will allow the facility to quickly respond to contamination events to cleanup the area.

The staff is researching filters to be used by the Containment Fabrication Facility (CFF). Nuclear Filter Technology has supplied samples of one type of filter. The CFF will be testing this as an alternative filter and the RTC is still pursuing purchase of a different model of bag filter from NucFil.

The RTC is involved with modifying the way in which personal protective equipment is being used. One, lab coats with zippered closures are being procured for piloting in CLAB. The intent is to replace lab coats with deteriorating Velcro closures all across the site. Two, lab coats are being considered for more than one time use and disposal as Green-is-Clean waste. The use of lab coats is normally for operations that involve low risk activities. And, the extended use and disposal in a low risk, controlled landfill is viable. In addition, the RTC provided information to the Hanford ALARA Center relative to selecting a launderable alternative to a disposable.

Hanford ALARA Center personnel attended the ALARA conference in Orlando a few weeks ago. Information was gathered for both centers and SRS will do the same at the Waste Management '03 Symposium in February.

On the recommendation of the RTC, the 772-F Laboratory used Poxycote II paint as a fixative applied to a lab concrete floor to prevent seepage of contamination from under a metal track. Poxycote II is a one part epoxy coating that sticks to metal, plastic, wood, rubber, glass, leather, canvas, ceramic tile, concrete and paper. It resists water, acids, grease and abrasion. After application of the paint, the laboratory was downgraded from a High Contamination Area/Airborne Radioactivity Area. For information about this application contact Robbie Black at (803) 952-3068.

The RTC provided input to the Waste Minimization Subcommittee that the In-situ Object Counting System (ISOCs) has been approved as radiation monitoring equipment for site wide use for performing waste characterizations. The mobile system has the capacity to completely renovate the way the waste characterization

business is conducted.

Provided assistance to the SRS Nuclear Materials Transport Department (NMTD) that wanted to see the Stagecoach low-level waste container. They need a strong tight container to enclose a pallet of four 55-gallon drums. The Stagecoach was not large enough but the CFF manufactured an acceptable 20 mil PVC container. The NMTD anticipates a need of several hundred of the containers.

The RTC provided tours for the H Closure group Maintenance management and F Tank Farm Radiological Controls personnel. In addition, two meetings of the Waste Minimization Subcommittee were hosted in 315-M.

#### **New Vendor Information, Equipment and Visits:**

The new Passive Aerosol Generator (fogging machine) has been received. We will be arranging to have the onsite vendor training in the next few months. Site employees who may be using the equipment in the future should attend the training. Please contact Robbie Bates with contact names and information so that the final training details can be arranged.

John Shannon of NFS/RPS visited the RTC for a tour and discussion of potential additional display items including a display model of a MAC21D. NFS/RPS currently has a display of ventilation accessories, lead blankets and associated literature at the RTC.

Brent Daugherty of Nuclear Filter Technology also visited the RTC for a tour and discussion of potential additional display items. NucFil currently has a display of various HEPA filtered waste bags and small drum and container filters. Various bag and containment filters were also discussed for use by the CFF and samples of one filter model have been received as discussed above.

The RTC evaluated the requirement for use of the FM41 MAC21D explosion proof 400 CFM HEPA filtration unit designed for SRS. We determined that the FM 41 MAC21D is needed when used as ventilation for waste tanks and other potentially explosive environments. However, the FM41 MAC21 (\$2000 cheaper than the 21D) is adequate for most SRS applications. The RTC will recommend the MAC21 for future uses unless the particular application requires the 21D.

Charlie Smith of Nilfisk visited the RTC several times to discuss the use of the new F Tank Farm Descibrator and deliver parts for the CFM137 for use with a 55 gallon drum separator lid.

The RTC recently purchased a rolling shield door that contains 1.5 mm of lead. The door was used in hospital x-ray use and was purchased used from a shielding vendor. An SMI-51 inspection has been completed and the door may be used by FB-Line for planned work activities. The RTC will continue to watch for items such as these, which can be obtained cheaply to meet SRS mission needs.

Due to the current weather, it is worth reminding everyone that the Eliminator vests supplied by Jenkins Comfort can be used in a heating mode as well as a cooling mode. One of the available water distribution models contains a heater and will allow use of the vest in a heating mode. This is something to keep in mind for outdoor work during the winter months. The RTC has a demonstration unit available if you would like to try the vests for this application.

In addition, the SRS representatives for two of our vendors have changed. Kevin Hollingshead is the new Sherwin Williams representative and Mike Oliver is the new ThermoReax representative. We look forward to working with Kevin and Mike.

#### **Useful Information**

The DOE Operating Experience Weekly Summary is a useful tool for DOE Complex Lessons Learned. Current and historical summaries can be found at <http://tis.eh.doe.gov/paa/oesummary.html>. The final summary for 2002 is attached and provides an index of all 2002 summaries and specific articles. Paper and electronic copies of the summaries from 2001 until the present are located in the RTC library as well.

The 2001 DOE and NRC Annual Dose Reports have been issued. The DOE report can be viewed or downloaded from <http://rem.s.eh.doe.gov/annual.htm>. The attached file contains a pictorial summary of the DOE Complex doses. The NRC report can be viewed or downloaded from <http://www.reirs.com/annual.htm>. Electronic and paper copies of the reports are located in the RTC library as well.

The RTC and CFF will be participating in the SRS Technology Days at Fort Discovery on Tuesday February 11th and Wednesday February 12th. Tuesday evening will be open to the general public while school students will be attending during the days. Come by with your families and visit our displays if you can.

The RTC and CFF will be highlighted in a story on the February 2003 SRS Spectrum video. We hope you enjoy the video and encourage others who do not know about the Radiological Operations Support Center (ROSC) to stop by and visit.

**We hope this report has been informative and worthwhile and we look forward to your input.**

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ReportNumber 003  
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### **SRS Radiological Operations Support Center (ROSC) Radiological Technology Center (RTC)**

This is the 3rd activity report from the ROSC-RTC. This report is very late in being published and it covers an extended period of time due to the movement of Kent Rosenberger to Radiological Engineering. The activities listed are through 3/31/2003.

#### **Assistance, Demonstrations, Research and Tours**

The RTC sponsored a presentation of the Shonka Surface Contamination Monitor and Information Management System by Millenium Services. The presentation consisted of a talk on the technical aspects of the equipment, uses, and sample report results. Following the talk, there was a demonstration of the physical use of the equipment.

The RTC sponsored a presentation by New Millennium Nuclear Technologies (NMNT) on TruProSM Technology. When used in conjunction with portable radiometric instruments, the unique and patented sampling/characterization technology equipment produces a profile of radiological or chemical contamination through the material being studied. The bulk material samples are continuously retrieved by use of a specially designed vacuumed sample retrieval unit that prevents cross contamination of the clean retrieved samples. No circulation medium is required with this profiling process; therefore, the only by-product from drilling is the sample.

The RTC demonstrated the operation of the Marcrist Concrete Shaver on a pad near building 319-M. The shaver uses diamond impregnated blades to remove concrete to a depth of 0.79 inches. The blades can cut through imbedded rebar. The resulting surface is smoothing compared to conventional scabbing. Along with the shaver, a Nilfisk vacuum systems for dust collection and elimination of airborne activity was demonstrated.

The RTC sponsored a presentation by TMR Associates on their patented VAC TRAX hydrolasing technology. The hydrolaser uses high-pressure water to remove concrete. Representatives from DTGS were also present to share information on water filtration systems used with TMR products.

The RTC assisted F-Tank Farm with the selection and purchase of Nilfisk HEPA vacuum accessories and new Desco dust less tools and accessories for their existing tools. The purchase of a Descobrator and needle gun, as well as new vacuum attachments, will allow the facility to quickly respond to contamination events to cleanup the area.

The RTC continues to be involved with modifying the way in which personal protective equipment is being used. One, lab coats with zippered closures is being piloted in CLAB. The intent is to replace lab coats with deteriorating Velcro closures all across the site. Two, lab coats in HB Line are being considered for more than one time use and disposal as Green-is-Clean waste. The use of lab coats is normally for operations that involve low risk activities. And, the extended use and disposal in a low risk, controlled landfill is viable. In addition, the RTC provided information to the Hanford ALARA Center relative to selecting a launderable alternative to a disposable.

On the recommendation of the RTC, the 772-F Laboratory used Poxy Coat II paint as a fixative applied to a lab concrete floor to prevent seepage of contamination from under a metal track. Poxy Coat II is a one part epoxy coating that sticks to metal, plastic, wood, rubber, glass, leather, canvas, ceramic tile, concrete and paper. It resists water, acids, grease and abrasion. After application of the paint, the laboratory was downposted from a High Contamination Area/Airborne Radioactivity Area. For information about this application contact Robbie Black at (803) 952-3068.

The RTC provided the Defense Waste Processing Facility with Poxy Coat II, one-part epoxy paint used to fix contamination. A Contamination Area underneath a leaky valve was successfully rolled back to a "Fixed" Contamination Area with the application of Poxy Coat II.

The RTC provided input to the Waste Minimization Subcommittee that the In-situ Object Counting System (ISOCS) has been approved as radiation monitoring equipment for site wide use for performing waste

characterizations. The mobile system has the capacity to completely renovate the way the waste characterization business is conducted.

The RTC provided assistance to the SRS Nuclear Materials Transport Department (NMTD) with regard to the Stagecoach low-level waste container. A strong tight container to enclose a pallet of four 55-gallon drums was needed. While the Stagecoach was not large enough, the Containment Fabrication Facility personnel manufactured an acceptable 20-mil PVC container. The NMTD anticipates a need of several hundred of the containers.

The staff is providing a recommendation to relocate at least part of the containment and glovebag installation and removal training currently given in building 766-H. The ROSC in building 315-M currently has the subject matter experts on containments and glovebags used across the site. Also being considered is relocating some of ALARA Coordinator training.

The RTC provided FB-Line with a Nilfisk GM80 HEPA Vacuum to use for glove bag air filtration. The RTC floor display was used to expedite work and a replacement was ordered.

The RTC provided Z-Area Saltstone Facility with a sample of Radishield for possible shielding application on the top of a metal floor grading.

The RTC provided SAI Helium Bubble Generator training to personnel for an air migration study in Tritium Facility. Since the size of the room was so large (118,800 ft<sup>3</sup>) a double output generator would have worked better than the single output generator owned by the RTC.

A representative from the RTC meet with personnel from Central Laboratory in F-Area concerning possible deactivation of six laboratory modules in 772-F. The use of cerium nitrate was shared with the group as a plutonium decontamination agent.

The RTC provided the Savannah River Technology Center with a Sonatol Decontamination System for special project. The use of this system saved \$114,000, which would have been spent to procure a comparable system.

#### **New Vendor Information, Equipment and Visits**

The RTC purchased an Encapsulation Technology Passive Aerosol Generator (PAG), that is now available for site use. The PAG creates and slowly introduces an aerosol of organic material into an area (such as a room, glove box, or a ventilation duct). The aerosol encapsulates contamination and prevents resuspension of contaminants. Training has been provided to a select population of SRS personnel.

John Shannon of NFS/RPS visited the RTC for a tour and discussion of potential additional display items including a display model of a MAC21D. NFS/RPS currently has a display of ventilation accessories, lead blankets and associated literature at the RTC. Ventilation accessories include a MAC-21D Explosion Proof 400 CFM HEPA filtration unit and GU11 Drum Hood for a 55 gallon drum.

The RTC evaluated the requirement for use of the FM41 MAC21D explosion proof 400 CFM HEPA filtration unit designed for SRS. It was determined that the FM 41 MAC21D is needed when used as ventilation for waste tanks and other potentially explosive environments. However, the FM41 MAC21 (\$2000 cheaper than the 21D) is adequate for most SRS applications. The RTC will recommend the MAC21 for future uses unless the particular application requires the 21D.

Brent Daugherty of Nuclear Filter Technology also visited the RTC for a tour and discussion of potential additional display items. NucFil currently has a display of various HEPA filtered waste bags and small drum and container filters. Various bag and containment filters were also discussed for use by the CFF and samples of one filter model have been received.

The RTC has received a Small Articles Monitor, SAM11LE. The low-level gamma monitor for Am241, Pu and HEU measures fixed and transferable, internal and external contamination simultaneously. Six detectors give virtually 4-pi coverage. Terry Moore with Thermo-Electron Corporation will be providing future assistance.

The RTC recently purchased a rolling shield door that contains 1.5 mm of lead. The door was used in hospital x-ray use and was purchased used from a shielding vendor. An SMI-51 inspection has been completed and the door may be used by FB-Line for planned work activities.

A remote monitoring system was received from Industrial Video Systems Incorporated for display. The camera features a high-resolution, high fidelity color and a precision high-speed auto focus zoom lens for improved low

light performance.

The RTC received a five-gallon pail of 3M Fire Dam Spray that can be used as a contamination fixative. Samples painted on concrete and inside metal pipe are on display. The spray is a flexible, water-based coating designed to control the transmission of fire, heat, and smoke before, during, and after exposure to fire.

Representatives from Defense Waste Processing Facility and the RTC met with Edwards Technical Sales to discuss process cooling water filtration needs. DWPF will have SRTC perform water sample analysis before a filtration system is determined.

### **Useful Information**

The DOE Operating Experience Weekly Summary is a useful tool for DOE Complex Lessons Learned. The final weekly summary for 2002 is attached and provides an index of specific articles.

The 2001 DOE and NRC Annual Dose Reports have been issued. The attached file contains a pictorial summary of the DOE Complex doses. The NRC report can be viewed or downloaded from <http://www.reirs.com/annual.htm>.

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ReportNumber 004  
Month May  
Year 2003

**SRS Radiological Operations Support Center (ROSC)  
Radiological Technology Center (RTC)  
Activity Report Number 4, from 4/1/2003 to 5/9/2003**

**Assistance, Demonstrations, Research and Tours**

The RTC received brochures and samples from Duromar Systems, a manufacturer of repair and maintenance coatings since 1968.

The RTC successfully demonstrated operation of the Siemens TeleTrak TeleDosimetry System in the Defense Waste Processing Facility. The wireless monitoring system consists of an electronic personal dosimeter/transmitter, base station with antenna, and a laptop computer. The dosimeter/transmitter was in the Crane Maintenance and the monitoring station was in the Crane Operator Control Room.

The RTC provided ten gallons of Poxy Coat II to Central Laboratory, 772-F. The paint will be used to coat the tunnel floor between 772-F and 772-1F.

The RTC recommended the use of Bartlett's Polymetric Barrier System (PBS) to fix transferable contamination on asphalt at Tank 31 on H-Tank Farm. The PBS was obtained at cost savings of \$950 from Chemical Excess. Contamination levels were significantly reduced.

The RTC suggested Instacote Iso-flex primer to the Tank Farm as a fixative to coat a stainless and carbon steel mining tool. The purpose of the coating is to promote tool decontamination.

Work on the Soil and Groundwater project in Environmental Restoration was stopped due to inadequate equipment. The RTC provided a complete Nilfisk GM-625 vacuum system so work could be restarted.

The RTC provided Facility Decontamination and Decommissioning with the necessary accessories to a Nilfisk vacuum system so concrete sampling could continue at 322-M.

The RTC continues to be involved with modifying the way in which personal protective equipment is being used. Lab coats with zippered closures have been successfully piloted in CLAB. And, disposable lab coats in HB Line are being considered for use multiple times and disposal as Green-is-Clean waste.

And, the RTC loaned two alpha Sentry Continuous Air Monitoring Systems (CAMS) to the HB Line. The air monitors will be used to conduct a test to determine if personnel can be removed from respiratory protection during a particular work evolution. Loaning the CAMS saved the facility \$28K.

The RTC is assisting the Spent Fuel and Defense Programs in the inspection, characterization and disposition of approximately 140 casks. The casks are all lead lined with a varied history (SRS and around the world).

**New Vendor Information, Equipment and Visits**

A representative from the RTC attended the Edwards Technical Sales Company, CUNO Liquid Filtration Seminar.

The RTC received a sample roll of Tack Cloth from G/O Corporation. The cloth is 4-ply resin impregnated cheesecloth with the ability to engulf foreign matter on contact. SRS will test the cloth in the tank farms as a containment floor covering. If the cloth functions as intended, it will be offered by the SRS Containment Fabrication Facility as an option when fabricating containments.

**Coming Events of Interest**

MEGA TECH SERVICES Blade Plunge Cutter Demonstration, 28-May

PERMACON Building

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ReportNumber 005  
Month May  
Year 2003

**SRS Radiological Operations Support Center (ROSC)  
Radiological Technology Center (RTC)  
Activity Report Number 5, from 5/10/2003 to 5/29/2003**

**Assistance, Demonstrations, Research and Tours**

The RTC continues to be involved with modifying the way in which personal protective equipment is being used. Lab coats with zippered closures successfully piloted in CLAB are being considered in SRTC. OREX disposable lab coats for more than one time use are being considered in HB Line.

Tack Cloth was used on H-Canyon Hot Gang Valve Corridor containment floor. The cloth is resin-impregnated cheesecloth with the ability to engulf foreign matter on contact. It can be purchased from G/O Corporation at 1-800-933-8501. It is item number GJ 1032 in a 46-inch wide roll 100 yards long. The tack cloth will also be evaluated in the F-Area Tank Farm.

Three Nilfisk GM625 vacuum systems were provided to FDD for work in 313-M. A training class was conducted for Bechtel and RADCON personnel on operation of the vacuum system.

Two groups of FDD Engineering & Technology personnel toured the ROSC facility.

The RTC provided a vendor contact list to LANL who is starting an ALARA Center.

Sherwin Williams DTM Wash Primer and Tile Clad High Solids Epoxy was applied to a stainless steel piccolo duct and flange in 315-M prior to field application in CLAB. The test application was acceptable. The primer and epoxy will be provided for CLAB fieldwork.

In response to the recent operation incident at SRS involving the Centaur CEN C9 (scissors type) cutting tool, the RTC has scheduled a series of four vendor cutting tool demonstrations. The purpose is to heighten safety awareness and address tool applicability, inspections, and maintenance. The cutting tool demonstrations are being allowed even with the increased level of security, condition orange.

Polymeric Barrier System (PBS) green tint was provided to H-Canyon. The purpose is to apply the PBS as a contamination fixative to a sample box in the warm canyon sample isle.

The Marcrift Floorshaver was provided to FDD for concrete pad decontamination work. In addition, Nilfisk hoses were provided to the vacuum system that moves the dust from the Floorshaver.

The RTC received a ball valve extractor tool that was invented by Roger Brown at SRS. The tool is essentially a sliding hammer that quickly and safely removes a ball valve from its body. Contact Roger at 803-952-3338 for more information.

The ALARA web site contains information on the site's ALARA program and radiological performance indicators. The ALARA web site can be accessed on site by typing ALARA in the search field in ShRINE or via the Radiological Protection Services Homepage.

The RTC web site now contains a link to the DOE Operating Experience Summary Reports, [www.tis.eh.doe.gov/paa](http://www.tis.eh.doe.gov/paa). The RTC web site will be undergoing several enhancements in the near future.

The Site ALARA Committee meeting was held on 5/22. Agenda items included a review of the 1st Quarter CY03 Radiological Performance Indicators, the Draft CY03 Radiological Improvement Strategic Plan, marketing the ROSC with a "road show" to the field, and a new site standard Area Radiation Monitor.

The ROSC was recognized as a noteworthy practice in a recent Facility Evaluation Board review of radiological protection.

New Vendor Information, Equipment and Visits

John Stouky and Loman Scott of MEGA TECH SERVICES demonstrated a variety of blade plunge cutters to an audience of 40 potential users. The plunge cutters are portable hydraulic tools well suited for dismantling and volume reduction of metallic waste such as glove box legs, pipe, conduit and unistrut. The tools have been successfully used at SRS in Tritium operations.

#### Coming Events of Interest

COOPER TOOLS demonstration on 6/5  
E.H. WACHS demonstration on 6/26  
TRI-TOOL demonstration some time in July.

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Report Number 006  
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Year 2003

**SRS Radiological Operations Support Center (ROSC)  
Radiological Technology Center (RTC)  
Activity Report Number 6, from 5/30/2003 to 6/20/2003**

**Assistance, Demonstrations, Research and Tours**

The RTC provided a pair of EZ-Reachers and Niptongs tools to FTF. The purpose is to pick up small items in spaces to confine to reach by hand. Also to FTF, assistance was provided in procuring a strobe light with stanchion. The strobe will be used as a room warning light to alert personnel of radiological work being performed in the immediate area.

The RTC provided samples of G/O Corporation G-Flexx tape (Product Number GZ1042) to several SRS facilities. The purpose is to bond/stick polyvinyl chloride containment materials to concrete and metal surfaces. The comments received from the facilities were all positive. Several facilities have procured an additional supply of the tape. Each roll purchased reflects a 43% cost savings compared to the tape previously used.

A demonstrated use of the Jenkins Comfort System Eliminator Vest was provided by RTC personnel for FTF and HTF, F-Area Outside Projects, and the Radiological Assistance Program. The purpose of the vest is to alleviate heat stress to personnel while performing work. Systems left in each facility for evaluation have resulted in all facilities purchasing systems. Additional demonstrations are scheduled.

The RTC received five Nilfisk GM-625 vacuum systems specifically ordered to support decontamination efforts in 313-M. The HEPA filters were installed and the systems were DOP tested prior to pick-up. A training class had been previously conducted for Bechtel and RADCON personnel on operation of the vacuum system.

Also, a Nilfisk VT-60 vacuum system was provided to the Saltstone Facility. The purpose is to decontamination a process room prior to making required modifications.

The RTC received a sample sheet of Flex Boron from Thermo Reax for evaluation in K-Area. It was determined that Boron-Polyethylene is a better-suited material for the K-Area application.

The RTC ordered four 1/16" sheets (each 7" wide x 120" long) of Ecomass Compound PEM-15-01-110-LTS from Ecomass Technologies. Ecomass, a non-hazardous lead substitute, is composed primarily of tungsten plus a variety of types of polymer binders. The sheets will be used by FB-Line to provide shielding inside five-gallon pails.

Recommended Bartlett Services, INC polymetric barrier system (PBS) to the Solid Waste Division as a temporary soil contamination fixative. RTC will conduct a study to determine appropriate water to PBS mixture is best for 2-gallon sprayer application.

Everett Johnson and Jimmy Lewter of COOPER TOOLS demonstrated operation of the H.K. Porter W11800 bar stock cutter. The cutter is a hydraulic portable tool ideal for cutting 1" stainless steel bar stock material.

The RTC recommended and assisted in the application of brush grade Sherwin Williams Envirolastic 625 to seal threads and a weep hole on an abandoned process hand valve in the Tritium Facility. The facility originally planned to weld on the valve, which presented various hazards and extensive work planning.

The RTC contacted UNITECH Services to inquire on the availability of protective clothing made of the PROTECH 2000 material, in colors other than yellow. UNITECH provided a teal colored sample. It is also available in white. PROTECH 2000 is a lightweight, breathable material that is an alternative to cotton material for use in heat stress environments. Shorts are also available.

The ROSC web site continues to be enhanced. Since being activated, the web site has averaged 54 individual user hits per month.

**New Vendor Information, Equipment and Visits**

Los Alamos National Laboratory has sent a RAPID granulator and glove box to SRS.

The video library was expanded to include the most recent demonstrations.

Bartlett Services, INC plans on using an INSTAPAK expandable foaming system for its contracted work in M-Area. The foaming system will be stored (until needed on the job) and demonstrated in the ROSC.

### **Coming Events of Interest**

DOW CHEMICAL INSTAPAK EXPANDABLE FOAM demonstration, 6/25

E.H. WACHS demonstration on cutting tools, 6/26

TRI-TOOL demonstration on split frame clam shell cutter, 7/9.

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ReportNumber 007  
Month July  
Year 2003

**SRS Radiological Operations Support Center (ROSC)  
Radiological Technology Center (RTC)  
Activity Report Number 7, from 6/21 to 7/18/2003**

**Assistance, Demonstrations, Research and Tours**

The RTC shared information with the Naval Fuel decontamination and decommissioning team here in building 315-M and as a walk down of building 247-F. Additionally, the RTC participated in the teams weekly meeting providing information on the Keibler-Thompson demolition machine (owned by FDD). The tool could be used to dismantle portions of the Naval Fuels. Information was provided on the Trumpf nibbler sheet metal separator and MEGA Tech blade plunging pipe cutter(s).

The RTC shared information with the M-area decontamination and decommissioning team in building 321-M. Recommended using plunge cutter techniques (to crimp and cut) for the removal of 4" stainless steel process piping that once contained nitric acid.

Pollution Prevention training was hosted here in building 315-M (not as traditionally hosted in building 766-H). The intent is to better familiarize the students with what is being done in the field on waste minimization and pollution prevention initiatives and tour the ROSC.

The radioactive material in the north end of building 315-M has been removed and the areas rolled back to a clean area. The purpose is to make room for the recently delivered 800 square foot panelized enclosure (purchased with generator set aside funds) and future containment fabrication operations.

As a commitment to the H-area Radiological Improvement Plan, the RTC provided a search for, evaluate and make recommendations to jumper-cutting equipment. The search included generic recommendations in "Cutting Techniques for Radiological Work", an effort of the Hanford Site, ALARA Center. And, special cutting techniques a subject of vendor demonstrations conducted at SRS, ROSC.

The RTC provided samples of disposable clothing and demonstrated use of the Jenkins Comfort System Eliminator Vest for Solid Waste. The purpose is to alleviate heat stress to personnel while performing work during the summer months. The use of OREX disposable clothing is the preferred. TYVEK disposable clothing (blue dot are the "new" breathable generation and red dot are the "old" not breathable generation) is an alternative. PROTECH 2000 launderable clothing of UNITECH is also being considered.

Additionally, the eliminator vests were demonstrated for Special Forces of Wackenhut Security.

Bartlett Services, INC polymetric barrier system (PBS) has been recommended by the RTC as a temporary soil contamination fixative. The best ratio of water to PBS mixture for 2-gallon sprayer application is 1:2.

The WSRC Radiological Improvement Strategic Plan has been revised and approved. The plan can be accessed via the ALARA Website.

The RTC provided SRTC with lead blanket information to build shielded walls for a PCM-1B. The background radiation is high and shielding is needed.

The RTC provided Solid Waste with Sherwin Williams High Clad Solids Epoxy for resurfacing a 10 square foot section of concrete on Pad 6 in E Area.

The RTC provided Saltstone Facility with a NILFISK GM 60 replacement main filter, impact filter, and microfilter. The initially installed filters prematurely plugged when decontaminating a process room prior to making required modifications.

Scott Hansen and Bill Pence demonstrated operation of E H WACHS CO guillotine saw, split frame cutter, and chip less wheel utter.

Jeff Wilson demonstrated operation of a TRI TOOL INC split frame clamshell pipe cutter, tube severing and

squaring tool and Model 204-B bevel master with flange facing kit.

### **New Vendor Information, Equipment and Visits**

Sealed Air provided training to Bartlett Services, INC and ROSC personnel on the INSTAPAK expandable foaming system. A planned use of the foam is as filler for void spaces in waste destined for burial. Also visited shipping and receiving in building 731-1N. Another use is as filler/cushioning for other packages in shipment. Sealed Air is planning a demonstration to others in the near future.

### **Coming Events of Interest**

OLYMPUS INDUSTRIAL demonstration on Remote Visual Inspection, 7/23  
ECOMASS TECHNOLOGIES demonstration some time in August.

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ReportNumber 008  
Month August  
Year 2003

**SRS Radiological Operations Support Center (ROSC)  
Radiological Technology Center (RTC)  
Activity Report Number 8, from 7/19 to 8/8/2003**

**Assistance, Demonstrations, Research and Tours**

The RTC loaned the Liquid Waste Disposition Project team two items for mock up testing. One, a CFM 137 HEPA vacuum from NILFISK and accessories and two, a DESCO Dust-Free F/X tool.

The RTC ordered two GM-80 portable HEPA vacuum cleaners from NILFISK for F Tank Farm to be used for work in contamination areas.

The RTC ordered a NILFISK VT-60 for FDD for asbestos abatement work in D-Area.

The RTC ordered fifteen (15 lbs./ft<sup>2</sup>) lead blankets from NUCLEAR POWER OUTFITTERS for the SALTSTONE low curie waste program.

The RTC received multiple expandable foam samples from Sealed Air Corporation for display in the ROSC.

The RTC continues to share information with the Naval Fuel decontamination and decommissioning team working in building 247-F.

Construction of the 800 square foot panelized enclosure (purchased with generator set aside funds) in the north end of building 315-M has started. The enclosure contains a training area and offices to support the ROSC activities.

The RTC continues to provide support to Solid Waste to arrive at and use a more breathable type of protective clothing. The purpose is to alleviate heat stress to personnel while performing work during the summer months. The OREX polyvinylalcohol clothing and the Jenkins Comfort System Eliminator Vest were previously tested. TYVEK blue dot disposable and PROTECH 2000 of UNITECH are currently being tested.

Additionally, the eliminator vests were demonstrated for H-Canyon Outside Operations.

The ROSC web page is being modified to include an electronic library, reference shelf.

For demonstration purposes, select foot traffic areas of the RTC floor were recently painted with a Sherwin Williams ArmorSeal 700 HS epoxy coating.

The extended energy Small Article Monitor (SAM11LE) is being returned to BICRON. The original intent of the SAM was to be used in FB Line releasing hand tools and other small (less than 15" x 15" by 18") pieces of equipment/materials.

**New Vendor Information, Equipment and Visits**

The RTC received several items from G/O Corp for display in the ROSC. The items included rope hooks and bungee cord, two magnetic mounts, two U-Channel sign holders for fence mount, and a strobe light stanchion fit. The rope hooks may have a CFF application.

David Miller of Carolina Material Handling Services demonstrated the operation of the Crown Wave Man Lift in the RTC. The man lift may have a Naval Fuel application.

**Coming Events of Interest**

NFS/RPS delivery of PERMACON building for display in August

EXCEL Modular Scaffolding demonstration on 27-August  
ECOMASS TECHNOLOGIES demonstration some time in September

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Report Number 009  
Month August  
Year 2003

**SRS Radiological Operations Support Center (ROSC)  
Radiological Technology Center (RTC)  
Activity Report Number 9, from 8/9 to 8/29/2003**

**Assistance, Demonstrations, Research and Tours**

The RTC continues to share information with the Naval Fuel decontamination and decommissioning team working on leveling building 247-F. Most recently, an effective means to remove ceiling tile supports was suggested from the ROSC and MEGATECH Technologies.

Erection of the 800 square foot panelized enclosure (purchased with generator set aside funds) in the north end of building 315-M continues. The HVAC system remains to be installed to complete the effort. The enclosure contains a training area and offices to support radiological operations and waste minimization / pollution prevention activities.

For demonstration purposes, various areas of the RTC floor were recently painted with Sherwin Williams coatings. High traffic areas in the south end of the RTC were coated with Armorseal 700HS Tile Clad Epoxy floor paint. The training area in the north end was coated with Corothane I HS aliphatic finish coating.

Meetings with the training point of contact [tony.whatley@srs.gov](mailto:tony.whatley@srs.gov) continue to be conducted. The purpose is a smooth transition of the training efforts of Radiological Protection Services from building 766-H to building 315-M.

Unseasonably cool and less humid weather during the summer has resulted in less heat stress environments for performing work. The support to Solid Waste in the use of more breathable type of protective clothing has been placed on hold. TYVEK blue dot disposable and PROTECH 2000 of UNITECH are the next types of protective clothing to be tested.

The ROSC web page continues to be modified. Most recently, a hot link [lee.smith@srs.gov](mailto:lee.smith@srs.gov) connection is included, all of the activity reports have been posted, and external access beyond SRS is being made available. To access the web page (internally to SRS), go to ShRINE (via Internet Explorer not Netscape) and do a quick search on ROSC.

RTC provided lead vests for H-Canyon to test and FB Line to use for work. FB Line originally provided the vests for display in the RTC.

The 2nd Quarter of CY 2003 Radiological Performance Indicator Report is located on the ALARA Website.

The RTC has been working with RBOF in cleaning / vacuuming their basins.

RTC provided HB Line with samples of shielding materials. The lead blankets, ECOMASS, and RADISHIELD, [www.i-i-s.net](http://www.i-i-s.net), materials can be used to shield a process system.

The RTC provided FDP information on a Burndy Products lightweight portable crimper for tubing and piping.

The RTC located and ordered a "Hovering Walking Stick" for F-Tank Farm. The walking stick provides an ergonomic means to hold a portable survey instrument probe when RCO is performing ground surveys.

A member of the RTC attended training on the operation of the In-Situ Object Counting System purchased with generator set aside funds by FDP. The purpose is to maintain knowledge in most recent trends in assay equipment.

**New Vendor Information, Equipment and Visits**

The site is moving forward to comply with NFPA 70E requirements for flame resistant clothing for workers exposed to potential flash arc hazards. This is an item for discussion at the Personal Protective Equipment Oversight Group meeting on 8-September.

NFS / RPS, [www.rpsaec.com](http://www.rpsaec.com), delivered and erected a sheet metal PERMACON building for display in the ROSC. PERMACON buildings are currently used as containment of radioactive materials in a number of locations across SRS including building 321-M. An advantage of the metal buildings is that they can be decontaminated and reused.

EXCEL Modular Automatic Locking Scaffolding demonstration and installed for display in the ROSC.

The use of a waste bag holder for fume hood work is being investigated. Tritium employee Baker White, [baker.white@srs.gov](mailto:baker.white@srs.gov), described the prototype displayed in the RTC in IDEAS # 20092.

### **Coming Events of Interest**

ECOMASS TECHNOLOGIES, [www.ecomass.com](http://www.ecomass.com), demonstration 17-September at 1 PM

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ReportNumber 010  
Month September  
Year 2003

**SRS Radiological Operations Support Center (ROSC)  
Radiological Technology Center (RTC)  
Activity Report Number 10, from 8/30 to 9/24/2003**

**Assistance, Demonstrations, Research and Tours**

The RTC continues to share information with the Naval Fuel. Most recently, as a part of Contaminated Large Equipment Disposition team and the "proof of principle" in disposing of a glove box to Solid Waste.

The erection of the panelized enclosure in the north end of building 315-M is near completion. The enclosure contains the training area and four offices to support radiological operations and waste minimization / pollution prevention activities. The training area contiguous to the enclosure is currently being laid out by the training point of contact. Classes are scheduled to begin in October.

An additional supply of PROTECH 2000 coveralls purchased with Waste Minimization and Pollution Prevention Program funding has been received from UNITECH. The intent is to expand the piloted use of a more breathable type of protective clothing beyond Solid Waste. New and improved TYVEK blue dot coveralls are also being piloted. TYVEK are disposable and PROTECH 2000 are launderable.

A paper titled "Improved Engineering Controls at the Savannah River Site" will be presented at the Health Physics Society midyear meeting in February of 2004. Specific means and measures championed by the RTC will be highlighted.

The RTC provided FDP with information on the Burndy Lightweight Portable Crimper, a tool which performs safe, efficient isolation of capillary tubes and pipe prior to cutting. The crimper can seal tritium contaminated stainless steel and copper tubing up to one inch diameter.

The RTC ordered four Jenkins Comfort System Eliminator Vests and associated accessories for the F-area Canyon/Outside Facility Surveillance & Maintenance Team.

The RTC provided the Saltstone Facility with Nilfisk Vacuum System accessories for use with equipment in the facility.

The RTC provided H-area Tank Farm with a Nilfisk GM625 vacuum system for cleaning around tank conductivity probes.

RTC support of RBOF efforts continue. Most recently, Casey Bough toured the RTC looking for a vacuum system that could be used for the basins. A vacuum system that has been successful in L-area was ultimately used. He was also searching for shielding that could be used on a tank top. Due to the immediate need, shielding of the dimensions needed from K-Area is being used.

ALARA training was conducted for 25 engineers on "ALARA Training for Technical Support Personnel". Information on the ROSC was added as appropriate. As a part of the orientation program, new hire engineers take facility tours. The ROSC is being established as a standard tour as a part of their training program.

The Small Article Monitor was returned to THERMOELECTRON Corporation.

**New Vendor Information, Equipment and Visits**

The RTC provided personal protective equipment support for the site to comply with NFPA 70E requirements for flame resistant clothing for workers exposed to potential, electrical flash arc hazards. The plans include work in radiological and non-radiological areas. For non-radiological work, it is estimated that 896 pairs of coveralls are needed on a weekly basis. For radiological work, the estimate is yet being developed. The radiological approach may be as simplistic as using the coveralls recommended for non-radiological applications but in a distinctive orange color. From pilots with FR clothing, the recommended fabric is INDURA Ultra Soft [ultra soft is in 5.5 ounces and 7 ounces and INDURA is in 9 - 9.5 ounces (possibly, heat stress hazard at higher weights)].

ECOMASS TECHNOLOGIES conducted a seminar in the RTC and provided samples of the ECOMASS radiation

shielding material. The material contains tungsten and a variety of thermoplastic resins. ECOMASS is a non-reactive and nontoxic alternative to lead.

Bill Pence with EH WACHS CO. visited the site and assembled both a split frame cutter and guillotine saw for display in the RTC.

### **Coming Events of Interest**

ENCAPSULATION TECHNOLOGY PASSIVE AEROSOL GENERATOR demonstration on 7-October

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ReportNumber 011  
Month October  
Year 2003

**SRS Radiological Operations Support Center (ROSC)  
Radiological Technology Center (RTC)  
Activity Report Number 11, from 9/25 to 10/31/2003**

**Assistance, Demonstrations, Research and Tours**

The RTC provided a NILFISK GM625 HEPA vacuum system to FDP for D&D work in a TNX Basin. RTC provided HEPA vacuum accessories to the Saltstone Facility.

The RTC provided a DESCO Chipping Gun to FDP to chip concrete in TNX. To expedite the in field work, the chipping gun that was on display in the ROSC was provided and used. A replacement for display has been ordered.

The RTC provided assistance on several occasions to FTF. One, in the selection of 15 pounds per square foot lead lined blankets for a shielding application. Two, shared information concerning HEPA vacuums, the NILFISK VT Mercury vacuum and the NILFISK SS Mercury vacuum.

The RTC provided information to the Waste Characterization and Certification Group on Sealed Air Corporation expandable foam. Expandable foam can be used to fill void space in glove boxes prior to disposal.

Facility tours of the ROSC were provided to the H-Area Liquid Waste Disposition Project Team and a group of newly hired engineers.

The RTC provided FDP RADCON with a 40 foot telescoping pole to assist in performing radiological surveys in areas not accessible to personnel using a man lift or ladders.

The RTC provided ten gallons of Bartlett Services Polymeric Barrier System (PBS) to DWPF for fixing contamination on plastic in the railroad truck well. Also, the RTC ordered five gallons of PBS and STRIP COAT for Naval Fuels work. The vendor airless sprayer specifications for application of PBS were also provided.

The RTC continues to share a host of other information with Naval Fuels. Most recently, as a part of a meeting with procurement and MEGA TECH Services to discuss operator training (eventually performed) for the recently purchased blade plunging cutters. The RTC also provided two Canberra Alpha Sentry Continuous Air Monitors to use until theirs are received.

The RTC demonstrated operation of the Encapsulation Technology Passive Aerosol Generator. A glove box on display in building 315-M was fogged using the chemical ETGS Invisible Blue (site MSDS #34146).

Training classes in "Containment" and the "Installation and Removal of Glove Bags" began in October in the ROSC. The intent of moving the training to building 315-M is to provide a better touch with what is actually being performed in the field. Students saw the latest in radiological technology available and containment fabrication capabilities.

PROTECH 2000 coveralls of UNITECH are being piloted in several radiological facilities areas across SRS. As a note from the Hanford ALARA Center Activity Report, PROTECH 2000 coveralls are being implemented at the Fluor Hanford site.

**New Vendor Information, Equipment and Visits**

Personnel from RTC and the Actinide Removal Process met with EH WACHS to determine options for remotely cutting (for ALARA purposes) a six-inch pipe in a pit located in building 512-S. The vendor suggested a remotely installed and operated guillotine saw.

John Steward with OREX Technologies International will be at SRS on Wednesday, 5-November, at 1 PM to talk about a variety of products manufactured in various forms from a unique polyvinyl alcohol (PVA) polymer.

John Shannon with NFS/RPS will be at SRS on 13-November between 9 AM and 2 PM to conduct a seminar on PERMACON enclosures and localized ventilation as an engineering control of airborne contamination.

**ALARA**

Radiological Protection Services (RPS) is making preparations to host the first SRS ALARA Workshop in October

2004. The workshop will be open to the entire DOE complex as both attendees and presenters. The SRS ALARA Workshop will focus on education and information exchange for applied ALARA programs and support of radiological operations. Subject matter expert presentations, an onsite tour, and vendor demonstrations will accomplish the interchange of effective collection and dissemination of information, resources, and technologies from other DOE sites and the commercial nuclear industry.

Information concerning the ALARA Program is available as developed on the ALARA web site. This includes the 3rd Quarter Radiological Performance Indicator Report.

SRS ALARA Goals for 2004 are under development and should be approved by year-end.

### **Coming Events of Interest**

OREX demonstration on 5-November

NFS/RPS demonstration on 13-November

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ReportNumber 012  
Month December  
Year 2003

**SRS Radiological Operations Support Center (ROSC)  
Radiological Technology Center (RTC)  
Activity Report Number 12, from 11/01 to 12/15/2003**

**Assistance, Demonstrations, Research and Tours**

The RTC received 10 pounds of Tungsten powder from ECOMASS Technologies ([www.ecomass.com](http://www.ecomass.com)) to evaluate against lead shot as a shielding material. ECOMASS is a non-reactive and nontoxic alternative to lead.

The RTC provided FDP with product information to stock a material center in 714-A with frequently used items and spare parts such as vacuum systems and tools.

Additionally, FDP was provided with a CFM137 and NILFISK GM625 HEPA vacuum ([www.pa.nilfisk-advance.com](http://www.pa.nilfisk-advance.com)) to use with the MARCRIST Concrete Floor Shaver to collect dust when shaving a concrete pad in TNX. An activity code was provided to replace the vacuums taken from the ROSC.

The RTC provided a NILFISK VT60 Vacuum System to Saltstone for removing dust on roof trusses and in a vault in a Contamination Area.

The RTC provided four one-gallon containers of Bartlett PBS ([www.bartlettinc.com](http://www.bartlettinc.com)) for Solid Waste use in E-Area.

The RTC issued a no cost purchase requisition to receive a Nuclear Criticality Safe Vacuum Decontamination System from Brent Daugherty with Nuclear Filter Technology ([www.nuclearfilter.com](http://www.nuclearfilter.com)).

The RTC recommended and ordered two NFS/RPS MAC-21D's to be used to ventilation F-Area Canyon containment huts. Additionally, the RTC recommended the use of a NFS/RPS moisture separator upstream of the HEPA to remove moisture from the underground cells.

The RTC provided several options to address contamination from 772-F Lab 155 at duct that extends to service floor into Shielded Area "C". Options include using expandable foam to fill void spaces and/or using lexan to seal duct at service floor ceiling.

The RTC recommended the use of the Rubbermaid SECO Products No. H246 Mop Handle (WSRC caption/item no. 17-721) to replace the tradition wooden mop handle used by RADCON personnel to hold a swipe or instrument probe when conducting radiological surveys which is no longer available.

The RTC made several 21-foot extension poles that can be used by RADCON personnel to hold a swipe or instrument probe when conducting radiological surveys in over head areas. In many applications this will eliminate the need for a man lift or ladder. Contact the ROSC to get an extension survey pole.

**New Vendor Information, Equipment and Visits**

The Waste Minimization Subcommittee continues to use the ROSC for its periodic meetings. Several ROSC items were discussed. First, a radio frequency welder with thermal heat bars for welding polyethylene back roll stock material (planned used for manufacturing specialty tarpaulins). And second, the Passive Aerosol Generator and its planned use next month in the fogging of the CTS pit (242-3F) and evaporator cell (242-F). The welder and the aerosol generator were both purchased with Solid Waste generator set aside funds.

The north end of the ROSC continues to be used to conduct containment and glove bag installation and removal training. To date, five of these classes have been conducted as well as a class for ALARA Coordinators. To better meet the needs of the site, the two lesson plans for the containment and glove bag training are being revised. Included is a revision to the radiological containment procedure, 5Q1.2-496.

John Devine, Vice President of the Closure Business Unit, toured the ROSC. The purpose was to see first hand the efforts of the operations support center assisting in the conduct of work at SRS.

John Shannon with NFS/RPS ([www.nfsrps.com](http://www.nfsrps.com)) was in the ROSC in November to answer questions concerning PERMACON enclosures, localized ventilation, and specific field applications. Approximately 25 people attended.

John Stouky with MEGA TECH Services was in the ROSC in November to set-up a loaned Blade Plunging Cutter (BPC) 4 HD with a 220-volt hydraulic power unit. A VCR tape was made to demonstrate safe operation of the tool.

Personnel from RTC and Solid Waste meet with Kevin Hollingshead and Greg Holley from Sherwin Williams to evaluate a section of concrete flooring covered with a rubberized floor that degraded due to fork lift usage. The rubberized floor needs to be removed and the concrete coated with General Polymers 3579 primer and high performance CR 3744P epoxy.

The RTC continues to provide input to personal protective equipment to support work efforts. For the site to comply with NFPA 70E requirements for flame resistant clothing, the site has requisitioned a supplier to provide coveralls (colored in orange designating radiological work) to pilot. For piloting PROTECH 2000 synthetic coveralls, wrist/ankle bands and hoods have been provided by UNITECH ([www.u1st.com](http://www.u1st.com)).

The web site for the ROSC will be receiving a face-lift and extended for off site access. The number of on site distinct addresses requesting web based ROSC information increased by 24% from July.

## **ALARA**

Additionally, the web site for ALARA is receiving a face-lift.

## **Coming Events of Interest**

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ReportNumber 013  
Month January  
Year 2004

ESH-RPS-2004-00005

**SRS Radiological Operations Support Center (ROSC)  
Radiological Technology Center (RTC)  
January 2004 Activity Report**

**Assistance, Demonstrations, Research and Tours**

The development of a ROSC external web page is being finalized. The external page will update on a quarterly basis. Additionally, the internal web page is so to be revised. There was an average of 47 distinct addresses requesting internal web page ROSC information during the fourth quarter of 2003.

The Passive Aerosol Generator ([www.fogging.com](http://www.fogging.com)) from the ROSC was used to fog (filled with a fine particle mist) a Central Transfer System Pit in F-Tank Farm. The purpose of the fogging is to better control airborne and transferable contamination during near term decontamination and decommissioning (D&D) work. Next to be fogged is the 1F Evaporator.

A QUALITY SOUTHWEST / THERMOELECTRON (now called SUPPLY CENTRAL, LTD) display ([www.thermo.com/rmp](http://www.thermo.com/rmp)) was returned to its owner for future use at Los Alamos National Labs. The display is a model of a durable drum cover to shield 55-gallon TRU drums with higher than usual radiation levels. Neutron shielding is made of borate polyurethane. Photon shielding is composite lead.

The RTC provided Site Demolition & Decommissioning (SDD) with a lock coil spring for a DESCO Chipping Hammer ([www.descomfg.com](http://www.descomfg.com)) so work could continue in TNX.

The RTC provided assistance to have the Siemens Teltrack Wireless Personal Dosimeters approved for use within the Limited Area (LA) of building 772-F. The devices transmit non-sensitive data to a receiver location within the LA. This receiver is essentially a stand alone lap top computer running the monitoring software that is polling dose rates from the user worn transmitter devices. The receiver / computer is not connected to SRS net or any other network interface. Based on the low risk but beneficial safety enhancement, the approval of "F" area system and will most likely recommend approval of the same configuration in other LAs where there are no other security concerns.

**New Vendor Information, Equipment and Visits**

The RTC-USER list is being modified to better reflect its intended purpose.

The Waste Minimization Subcommittee used the ROSC training room for its January meeting. Robbie Bates presented the paper on improving engineering controls at SRS. The presentation and paper are a part of the agenda to the national Health Physics Society mid-year meeting in Augusta. An agenda item for attendees is also a tour on 11-February of the operations support center.

Presentation of what is new in the ROSC was made at the Generator Certifying Officials quarterly training. What is new included "old" technologies used innovative ways.

"Radiological Containment" and "Glove Bag Installation and Removal" training was conducted. Additionally, the lesson plans for presenting this training in the future are being revised.

Respiratory Equipment Facility personnel toured the ROSC for an investigative, fact finding purpose. The respirator facility in F-area is scheduled to be D&D.

The seminar on combustible and toxic gas detection technology scheduled for the ROSC was moved offsite to the Savannah River Research Campus due to the previous concern on security awareness levels. Mine Safety Appliance is an industry leader in safety gas monitoring with 85 years of experience.

The RTC continues to provide input to personal protective equipment to support work efforts. Requisitioned flame resistant clothes (coveralls colored in orange designating radiological work) for the site to comply with NFPA 70E requirements have been received.

**ALARA**

The latest approaches in work management and dose control / measurement were brought to the ROSC from the 2004 International ALARA Symposium. The identified areas included: 1) use of extensive shielding; 2) speedy trash removal and PC pickup and restocking; 3) use of 100-square centimeter probes in releasing large pieces of equipment from thus reducing dose; and, 4) OREX PCs were used in some outages and received good reviews.

## **Coming Events of Interest**

Health Physics Society Mid-year Meeting and ROSC tour on 11-February

John Shannon from NFS-RADIATION PROTECTION SERVICES presenting PERMACON enclosures and localized ventilation on 18-February

Pete Richards discussing latest technology in CUNO water filtration on 25-February

## **HANFORD**

Hanford shared their approach to demolishing high alpha contaminated buildings. First, the alpha contamination is sealed with an application of Barlett Polymetric Barrier System. Second, a Soil Sement ([www.midwestind.com](http://www.midwestind.com)) dust retardant is sprayed on to the area being demolished. Third, dust in the area is controlled using an ECS89 surface-active agent. The active agent is dispersed via a fog cannon and mister nozzle ([www.fogcannon.com](http://www.fogcannon.com)).

Hanford Tank Farm used a WACHS guillotine saw ([www.wachsco.com](http://www.wachsco.com)) to cut a pump removed from an underground tank. The saw mounts on the pipe by strapping a heavy-duty bicycle chain around the pipe and tightening (see on display in the ROSC). The saw is fed into the pipe with a hand crank. Due to the high radiation levels, the saw can be operated at a distance.

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Year 2004

ESH-RPS-2004-00015

**SRS Radiological Operations Support Center (ROSC)  
Radiological Technology Center (RTC)  
February 2004 Activity Report**

**Assistance, Demonstrations, Research and Tours**

The development of a ROSC external web page is complete. The web page is available at (<http://www.srs.gov/general/enviro/rosc/index.html>). Additionally, the internal web page is being revised.

The Passive Aerosol Generator ([www.fogging.com](http://www.fogging.com)) from the ROSC continues to get extensive field use. Most recently, fogging and controlling contamination in a TRU cabinet in Solid Waste. The front panel was cracked and replaced. The transferable contamination level in the cabinet before fogging was 800,000 dpm alpha per 100 cm<sup>2</sup>. The transferable contamination level in the containment hut was controlled to 1,000 dpm alpha per 100 cm<sup>2</sup>.

The lap top computer and transmitters from the RTC is supporting the work of the Siemens TELETRAK Wireless Personal Dosimeters in building 772-F. The computer is running the monitoring software. The transmitters are sending electronic personal dosimeter measured dose rates from workers.

Input on agents used in the decontamination of in tank inspection cameras was provided. Of concern is the removal of a filmy residue that can typically form after wiping the surface. Additional investigation is on going.

Criterion Industrial Sales and Mine Safety Appliances conducted a seminar on combustible and toxic gas detection technology at the Savannah River Research Campus. Approximately 40 people attended the informative seminar. A no cost purchase requisition was issued for a hydrogen monitor system to be evaluated in H-Tank Farm.

The ROSC provided a NILFISK VT60 Mercury Vacuum to FDD for D&D work to remove mercury from a tank in TNX.

The ROSC provided Naval Fuels D&D personnel with air-less sprayer specifications to apply Bartlett Polymeric Barrier System fixative.

The ROSC recommended the use of G/O CORP Tack Cloth to cover floor area where an employee slipped on plastic. Tack Cloth is a 4-ply resin impregnated cheesecloth with the ability to engulf foreign matter on contact.

**New Vendor Information, Equipment and Visits**

The Waste Minimization Subcommittee used the ROSC for its February meeting and voting on generator proposals for set aside funds. The set aside funds provided the financial support for the upgrades to building 315-M along with various pieces of equipment.

The national Health Physics Society held its midyear meeting in Augusta. Robbie Bates presented the paper on improving engineering controls at SRS. Additionally, a booth was manned and a tour of the operations support center was provided (see attachment). The booth showcased several containment fabrication products. From the interaction, additional 40 individuals were added to the activity report distribution.

"Radiological Containment" and "Glove Bag Installation and Removal" training was conducted. And, access to the Radiological Containment Guide as a site wide reference for use was provided from the web site.

EVEREST VIT ([everestvit.com](http://everestvit.com)) conducted a demonstration of their remote, visual inspection equipment in the ROSC. Their non-destructive testing products and services enable inspections of otherwise inaccessible and potentially hostile environments in a safe and cost-effective manner.

John Shannon from NFS-RADIATION PROTECTION SERVICES ([nfsrps.com](http://nfsrps.com)) was at the ROSC to discuss PERMACON enclosures and localized ventilation with interested visitors.

Pete Richards, Jim Edwards, and Greg Kusterman were at the ROSC to discuss the latest technology in CUNO water filtration ([cuno.com](http://cuno.com)).

**ALARA**

The Personal Protective Equipment Oversight Group conducted its periodic meeting. Agenda items included the continued exploration and use of PROTECH 2000 coveralls, use of zippered lab coats in CLAB and NFPA70E compliant coveralls.

ALARA Goals for 2004 have been published and will soon be posted on the ALARA web site.

### **Coming Events of Interest**

Brent Daugherty from Nuclear Filter Technology on 8-March

Arthur Desrosiers from Bartlett Nuclear Service on 23-March

### **HANFORD**

A new product is being used by Hanford to fix contamination inside a rusty 61-foot diameter carbon steel tank located at the edge of the Columbia River. "Rust Doctor" (<http://www.therustdoctor.com/index.html>) was sprayed inside the tank and appears to have done a good job fixing the contamination trapped in the red rust inside the tank. The task is to remove the tank and not spread contamination to the river and shoreline.

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Month March  
Year 2004

ESH-RPS-2004-00025

**SRS Radiological Operations Support Center (ROSC)  
Radiological Technology Center (RTC)  
March 2004 Activity Report**

**Assistance, Demonstrations, Research and Tours**

If you have not taken the time previously, visit the ROSC external web page. The web page is available at <http://www.srs.gov/general/enviro/rosc/index.html>.

The Passive Aerosol Generator ([www.fogging.com](http://www.fogging.com)) continues to get extensive field use to the extent that another may well be purchased to support future work efforts. The generator uses an ET Glycerin Invisible Blue fogging solution that was provided from the ROSC to both F-Area Tank Farm and Solid Waste. Also, a Solid Waste Division generator training procedures was reviewed.

The pilot of the Siemens TELETRAK Wireless Personal Dosimeters in building 772-F was completed. The ROSC lap top computer was used to run the monitoring software collecting the transmitted electronic personal dosimeter measured dose rates from workers.

The ROSC provided support to site personnel with a field service point of contact at Vogle Nuclear Power Plant.

The ROSC conducted a demonstration in 315-M for HB-Line personnel. A DESCO FX flush plate scabbler was used to remove epoxy paint and concrete from a floor. The tool was connected via a 25-foot hose to a NILFISK GM625 HEPA vacuum to filter the particulate removed. Personnel were impressed with the performance of the equipment and took the scabbler to expedite D&D activities.

The ROSC provided Solid Waste with several sheets of LEADX for shielding an assay machine. LEADX is a lead vinyl, flexible protective material available in both 0.5 mm and 1.0 mm lead equivalents. The smooth, non-absorbent vinyl surface is easily cleaned ([www.bar-ray.com](http://www.bar-ray.com)).

The ROSC recommended a NFS/RPS free standing drum hood to exhaust while working in a 55-gallon drum in the new building 772-F TRU Drum Processing Facility. Also, two NILFISK GM80 HEPA vacuums were provided to exhaust glove bags.

The ROSC ordered samples of Sherwin Williams Centurion water based urethane to test as an asphalt top coat for H-Tank Farm applications.

The site continues to deploy used radiological instrumentation for their intended purpose to the Homeland Defense Reuse Program. The practice makes good business sense and avoids waste generation.

The ROSC provided paint can type filters for potential use on inlet air to glove bags in D&D of Naval Fuels.

**New Vendor Information, Equipment and Visits**

Special classes in "Radiological Containment" and "Glove Bag Installation and Removal" training was conducted for F-Canyon personnel. Glove bags used in the training included ones that the containment fabrication facility modified with nylon zippers in place of press lock plastic seals.

Brent Daugherty from Nuclear Filter Technology visited the ROSC to familiarize himself with the prototype of a criticality safe HEPA vacuum on loan.

Arthur Desrosiers from Bartlett Nuclear Service ([bartlettinc.com](http://bartlettinc.com)) conducted a demonstration of the Bartlett Final Survey Monitor in 315-M. The monitor is a computer-controlled system that uses off the shelf components that reduce capital cost and simplify procurement for spare parts. The detectors used in the monitor are Ludlum Model 43-68 gas flow proportional counters. There are eight detectors, two are used as background monitoring and six detectors are used to sweep a one meter wide strip of floor or wall. The rugged, dependable design has been used in many final surveys.

## **ALARA**

The ALARA web page is located at <http://shrine01.srs.gov/eshqa/shops/alara/>.

Plans are being made to host the 2004 ALARA Conference here in the Augusta area. Additional information will be provided as plans are finalized.

Annually, SRS submits ALARA Project Descriptions for the DOE Occupational Radiation Exposure Report. Currently, successful ALARA project descriptions are being collected for the 2003 report. This is an excellent avenue to showcase the successful ALARA techniques implemented.

## **Coming Events of Interest**

- CFM 3707 HEPA Vacuum System demonstration in April
- TRUTECH NUCUT Cutting Tool demonstration in late April
- MJW Corporation Electronic Visual Survey Program demonstration on 15-April
- American Glovebox Society meeting 21-April at the SR Research Campus ([ags@gloveboxsociety.org](mailto:ags@gloveboxsociety.org))
- F&J Specialty Products, Inc Air Monitoring Equipment demonstration on 12-May
- ROSC Exhibit at SRS Safety Conference on 15 & 16-June

## **HANFORD**

From a DOE Operating Experience Summary Report and Hanford, good practices when cutting piping during D&D activities include:

- Use an approved work package that is specific to the task
- Conduct walk downs and engineering evaluations before working on an abandoned system
- Identify the specific piping to be cut during pre-job briefings
- Clearly mark where piping cuts will be made
- Clearly label all piping and equipment as in-service or abandoned
- Isolate and remove all energy sources
- Use lockouts and tag outs
- Conduct a supervisory review before starting the work
- Verify that all energy has been removed before making the cut.

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ESH-RPS-2004-00051

**SRS Radiological Operations Support Center (ROSC)  
Radiological Technology Center (RTC)  
April 2004 Activity Report**

**Assistance, Demonstrations, Research and Tours**

The ROSC recommended the use of Bartlett STRIPCOAT TLC Free, MSDS #21594-2 (at \$84 /gallon) as a substitute for ALARA 1146 (approaching \$ 125 /gallon). This recommendation is consistent with Cecil May, who was involved in a DOE sponsored evaluation at SRS in 1999.

Operations support was provided to Solid Waste with regard to storage of materials in black boxes.

The ROSC provided a NFS/RPS free standing drum hood exhaust for working with a 55-gallon drum in the new 772-F TRU Drum Processing Facility.

A wide variety of radiochemistry courses are being offered at different locations across the country. For detailed information about each course, future dates, or course registration, go to [www.radiochemistry.org](http://www.radiochemistry.org).

The ROSC provided a NILFISK GM80 HEPA vacuum and DESCO drill shroud with dust collector for drilling holes on a concrete floor in a High Contamination Area in FB-Line. And, a NILFISK GM80 was provided the F-Area Deactivation Team #2 for D&D activities in F-Area.

The ROSC provided 50 feet of 1.5 inch diameter vacuum hose to Naval Fuels for D&D activities.

Operations support was provided to the 235-F Legacy Source Team for D&D activities. Environmental Alternatives Inc. ([www.eai-inc.com](http://www.eai-inc.com)) has been contacted to provide information concerning decontamination

The ROSC received a gallon sample of Encapsulation Technology ET9700 Capture Permacoat, MSDS #35320-1. It is a contamination fixative that will be evaluated in Solid Waste.

**New Vendor Information, Equipment and Visits**

Regularly scheduled and special classes in "Radiological Containment" and "Glove Bag Installation and Removal" training were conducted. The lesson plan for the class was recently revised to reflect use of nylon zippers in place of press lock plastic seals. Detailed information about the courses is available through Melanie Gibson ([melanie.gibson@srs.gov](mailto:melanie.gibson@srs.gov)).

TRUTECH NUCUT Cutting Tool portable shear demonstration was held ([www.trutechllc.com](http://www.trutechllc.com)). NUCUT tools have been designed specifically for D&D and offers advantages with its unique construction. Major innovations include: the completely portable battery / power pack unit (90% recharge within 23 minutes) offers superior mobility; on-demand hydraulic power eliminates massive leak potential from continuous pressurized lines; and, the three-blade system allows continuous cuts through plate materials, allowing sectioning of items such as ducting, gloveboxes, or other interior components and virtually all materials (cut and size reduce steel, wood, concrete, ... plastics) encountered during demolition preparation activities.

Todd Rockwood and Chris Morgese with EVEREST VIT visited the ROSC to discuss remote visual inspection equipment to be added to the inventory. NITROCISION, LLC cutting technology uses pressurized liquid nitrogen to cut, slice, trim or remove any coating with precision ([www.nitrocision.com](http://www.nitrocision.com)). The technology delivers an unequalled alternative waste treatment solution.

MJW Corporation ([www.mjwcorp.com](http://www.mjwcorp.com)) Electronic Visual Survey Program demonstration was well received. SRS may well pilot for site wide implementation.

**ALARA**

" The request to host the 2004 SRS ALARA Conference in October 2004 has been submitted to the DOE for approval. Additional information will be provided as plans are finalized.

" ALARA Project Descriptions for the DOE Occupational Radiation Exposure Report were submitted to the DOE.

" The 2004 Radiological Improvement Strategic Plan is being developed.

" Implementation of ALARA Reviews into the Automated Hazards Analysis (AHA) process is in the final stages. Additional information and procedure revisions will be communicated.

" The assessment of ALARA Reviews with facility ALARA Coordinators is complete. The final report will be submitted when completed.

### **Coming Events of Interest**

" BLADEWERX SABRE Breathing Zone Monitor demonstration on 6-May

" F&J Specialty Products, Inc Air Monitoring Equipment demonstration on 12-May

" CFM 3707 HEPA Vacuum System demonstration in May

" ROSC Exhibit at SRS Safety Conference on 15 & 16-June

### **HANFORD**

- MEGA-TECH and Patton Hydraulics bring their new shear capable of cutting Schedule 40, 12" Stainless Steel piping

- RIDGID Tool catalog at <http://www.ridgid.com/Tools/Pipe-Cutters/index.htm> has axial and #209 radial pipe cutters allow you to cut "windows" into existing piping without grinding.

- Oak Ridge Filter Test Facility (FTF) rejection rate for the filters tested is about 5%. Causes for rejection include five categories: (1) Resistance, (2) Penetration, (3) Manufacturing Defects, (4) Purchase Order/Spec Discrepancy, and (5) Shipping Damage.

- "Rust Grip" (<http://www.supertherm.net/home.htm>) has the ability to galvanize metal and porous surfaces such as surfaces painted with lead-based paint. The surface is completely encapsulated and galvanized by the coating. "Moist Metal Grip" is an encapsulate coating that does not breathe. It seals interior surfaces extremely tight and will last for several years. "Non-Skid" and "Enamo Grip" encapsulate and seal exterior flooring, walls, and overhead surfaces. These products are tough and repel chemical spills and will withstand traffic.

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Month May  
Year 2004

ESH-RPS-2004-00058

**SRS Radiological Operations Support Center (ROSC)  
Radiological Technology Center (RTC)  
May 2004 Activity Report**

**Assistance, Demonstrations, Research and Tours**

Need more information, visit the ROSC website (<http://www.srs.gov/general/enviro/rosc/index.html>).

The ROSC provided an input to the decision to lease orange coveralls to comply with NFPA 70E requirements and performing electrical work with flash arc potential in a radiological environment. The lease rate is comparable to tan coveralls used in performing electrical work with flash arc potential in a non-radiological environment. Importantly, waste is minimized.

The ROSC provided an input to the use of PROTECH 2000 coveralls ([www.u1st.com](http://www.u1st.com)) to relieve heat stress hazards across SRS. The lightweight nylon coveralls are being piloted in several areas.

Assistance was provided to building 321-M personnel in regard to disposal of several cesium sources and the reuse of a metal decontamination building ([www.nfsrp.com](http://www.nfsrp.com)). The sources will be disposed of as a waste with other nonfunctioning nuclear incident monitor sources. The metal building will be used to support future work in E-area. A large portion of the disassembled building was free released.

The ROSC provided information on the use of hydrogen peroxide to reduce crud levels, subsequent exposure rates and a point of contact at Plant Vogtle.

The Stage Coach DOT Type-A container ([www.nfsrps.com](http://www.nfsrps.com)) on display at the ROSC was delivered to F-Canyon / Outside Facilities to support immediate closure needs. Another container has been back ordered for display.

Operations support was provided to the 235-F Legacy Source Team for D&D activities by way of a visit from Environmental Alternatives Inc. The patented RADPRO process uses advanced chemical extraction technology to achieve radioactive and other hazardous material decontamination ([www.eai-inc.com](http://www.eai-inc.com)).

Used and no longer needed radiological survey equipment continues to be accumulated in various areas across the site for support of Homeland Defense.

Two demonstrations were conducted in the ROSC; the BLADEWERX SABRE Breathing Zone Monitor ([www.bladewerx.com](http://www.bladewerx.com)) and the F&J Specialty Products, Inc Air Monitoring Equipment ([www.fjspecialty.com](http://www.fjspecialty.com)).

The ROSC provided NILFISK accessories to Naval Fuels D&D for vacuuming in contamination areas and to F-Tank Farm for support of their GM-625 vacuum system.

The ROSC provided BNFL personnel in Oak Ridge with information regarding fixatives for contaminated oily metal pipes for POXYCOAT II ([www.poxycoat.com](http://www.poxycoat.com)), Encapsulation Technology Capture PERMACOAT, and Bartlett PBS ([www.bartlettinc.com](http://www.bartlettinc.com)).

The Passive Aerosol Generator ([www.fogging.com](http://www.fogging.com)) from the ROSC was used to fog Diversion Box 4 in H-Tank Farm. The fogging application provided control of airborne and transferable contamination during work in the diversion box the following day. The fogging also eliminated mercury vapors typically measured at the HEPA exhaust.

The ROSC ordered an 18 foot long EZ Reacher Extension tool ([www.trisyn.com](http://www.trisyn.com)) for radiological work in the F-Area Canyon.

MJW Corporation ([www.mjwcorp.com](http://www.mjwcorp.com)) Electronic Visual Survey Program demonstration was well received. SRS does not have the funds available to purchase a site license for that, so a program currently used in Naval Fuels and F-Area Canyon will be modified for site-wide application.

**New Vendor Information, Equipment and Visits**

Regularly scheduled and special classes in "Radiological Containment" and "Glove Bag Installation and Removal"

training were conducted.

The TRUTECH NUCUT portable shear ([www.trutechllc.com](http://www.trutechllc.com)) was returned to the vendor. The tool will be used in a field application in another location.

The ROSC received an Air, Electric, and Hydraulic Tool catalog from CS UNITEC Inc.

The ROSC received a PORTACOOOL Personal Cooling System from G/O Corporation. This system is a vest and has a cooling unit (pump and ice bottle) that is attached at all time during uses.

## **ALARA**

### **Coming Events of Interest**

- ROSC support of DOE Kids Day on 3-June
- ROSC teaming with Waste minimization/Pollution Prevention Exhibit at the SRS Safety Conference on 15 & 16-June
- Expansion Seal Technologies D Series Pipe Tapping demonstration, 30-June
- NILFISK CFM3707 Vacuum System demonstration some time in July

## **HANFORD**

Meeting was conducted on the use of cerium nitrate gel decontamination process. Plan at Hanford is to decontaminate the glove boxes to a point to where they can be reclassified as low level waste instead of TRU waste. This eliminates the need to size reduce the glove boxes before disposal and saves several months of labor intensive work. The process consists of several stages. The gel is applied and allowed to dry. It etches and oxidizes the stainless steel to a depth of 5 to 10 microns. The gel changes to a clear color as it dries and eventually becomes white flaky material that is removed using a criticality safe vacuum cleaner.

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**SRS Radiological Operations Support Center (ROSC)  
Radiological Technology Center (RTC)  
June 2004 Activity Report**

**Assistance, Demonstrations, Research and Tours**

Need ROSC information, visit the website (<http://www.srs.gov/general/enviro/rosc/index.html>).

PROTECH 2000 coveralls and hoods ([www.u1st.com](http://www.u1st.com)) provided to mitigate heat stress hazards across SRS are now STORES stocked item. Users have been reminded of the need to provide the laundry drop point on the garments with an indelible marker on the breast area of the coveralls and on the hoods.

Assistance was provided to building 321-M personnel in regard to retrieval of a nuclear incident material source, including an EZ REACHER ([www.trisyn.com](http://www.trisyn.com)) and ECOMASS tungsten shielding. The source will be disposed of as a waste with other nonfunctioning sources.

Also, the ROSC supplied an 18 foot long EZ REACHER Extension tool for radiological work in the F-Area Canyon.

Demonstration units of the Jenkins Comfort System Eliminator cooling vest were provided to 299-H, 221-H Canyon and the site HVAC Group for evaluation in heat stress environments. The 299-H evaluation has been completed and a number of the vest and accessories have been procured.

The ROSC conducted a heat stress relief seminar and demonstration. The following items were demonstrated: the Jenkins Comfort System Eliminator vest [www.jenkinscomfort.com](http://www.jenkinscomfort.com), the Med-Eng PORTACOOOL Personal Climate System received from G/O Corp [www.gocorp.com](http://www.gocorp.com), Neckbands, Beanie Caps, Hardhat Brow Liners, PROTECH 2000 coveralls, and the Jaybird Manufacturing ([www.jaybird-mfg.com](http://www.jaybird-mfg.com)) AQUAFOG area climate control water mister.

The ROSC provided FB-Line with a half gallon of Bartlett PBS ([www.bartlettinc.com](http://www.bartlettinc.com)) for a fixative coating application.

The Passive Aerosol Generator ([www.fogging.com](http://www.fogging.com)) continues to be used site wide. Most recently, ten personnel from both F & H Area Tank Farms were trained to operate the generator. Additionally, ten gallons of the ETGS Invisible Blue fogging chemical was ordered for a future Solid Waste Division application. The fogging chemical can now be ordered directly from Stores rather than initiating a Chemical Request Form. The material ID number is 32-15227.00.

The ROSC teamed with Solid Waste to support a booth at the 2004 SRS Safety Conference. The booth showcased an interactive Containment Fabrication Facility glove bag demonstration, remote monitoring equipment ([www.i-i-s.net](http://www.i-i-s.net)), cutting tools ([www.us.trumpf.com](http://www.us.trumpf.com), [jstouky@aol.com](mailto:jstouky@aol.com)), cooling vests ([donnyjcool@aol.com](mailto:donnyjcool@aol.com)), protective clothing ([www.u1st.com](http://www.u1st.com)), and other varied waste minimization and pollution prevention opportunities.

ROSC personnel support of DOE Kids Day included an interactive glove bag demonstration, dress out in typical anti-contamination clothing, and a photographic opportunity with a rendition of a cartoon caricature.

The ROSC ordered a sheet of 24 inch by 84 inch Lead-X Vinyl 0.5 mm thick for shielding a high activity waste drum in E-Area.

**New Vendor Information, Equipment and Visits**

Carolina Fluid Components ([www.cfcscite.com](http://www.cfcscite.com)) conducted a comprehensive demonstration of the 80/20 Industrial Erector Set on 30-June 23.

Rocky Ventitelli with DESCO Manufacturing ([www.descomfg.com](http://www.descomfg.com)) visited the ROSC in June to answer questions concerning their line of dust free surface preparation tools.

Regularly scheduled and special classes in "Radiological Containment" and "Glove Bag Installation and Removal" training were conducted.

**ALARA**

Need ALARA or Performance Indicator information, visit the internal to SRS website on ShRINE (<http://shrine01.srs.gov/eshqa/shops/alara/index.html>).

Due to the limited number of positive attendance responses, SRS has decided to delay the ALARA Workshop until the spring of 2005. This will allow time for participants to allocate travel budgets for this extremely beneficial event. Expect additional communication in the near future.

The Personal Protective Equipment Oversight Group meeting was held in June. The salient issues from that meeting are being included herein.

### **Coming Events of Interest**

- Expansion Seal Technologies Pipe Tapping demonstration on 1-July
- Citadel Technologies "Diamond Wrap" pipe repair demonstration on 14-July
- NILFISK CFM3707 Vacuum System demonstration some time in July

### **HANFORD**

- The TRUMPF NIBBLER, Model-1000 ([www.trumpf.com](http://www.trumpf.com)) being used in a glove box to size reduce materials was described by workers as "awesome". The unit is mounted upside down in the glove box and cuts the metal at a rate of 39" per minute.

- The Plutonium Facility has over 300 glove boxes to be cleaned out, decontaminated and removed. Rather than spend time and money replacing badly deteriorated and have poor visibility windows, it was decided to try sanding/polishing the deteriorated surfaces with grit discs from 3-M. Plan was to improve visibility enough to accomplish D&D, Small viewing sections or "port holes" were polished in the windows using 50, 35, and 10 micron grit discs attached to an orbital sander.

- A list of fixatives and coatings being used at Hanford is provided herein. List may be of value to those attempting to identify a product for a typical use.

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ReportNumber 019  
Month July  
Year 2004

ESH-RPS-2004-00091

**SRS Radiological Operations Support Center (ROSC)  
Radiological Technology Center (RTC)  
July 2004 Activity Report**

**Assistance, Demonstrations, Research and Tours**

Need information, visit the ROSC website (<http://www.srs.gov/general/enviro/rosc/index.html>). Recent hits to the web site have averaged 68 per month.

The use of PROTECH 2000 coveralls and hoods to mitigate heat stress hazards across SRS continues to expand. Sizes 4X-large and 5X-large are now available as STORES items. Users are reminded to provide the laundry drop point on the garments with an indelible marker on the breast area of the coveralls and on the hoods.

Jenkins Comfort System Eliminator cooling vest were provided to FDD. Also, NILFISK vacuum system accessories were provided to FDD for vacuuming sumps in 678-T.

Assistance is being provided to the site effort to dispose of radiological sources and standards. In all, there may well be over a thousand sources of various physical, chemical and radiological forms to be disposed.

The Passive Aerosol Generator ([www.fogging.com](http://www.fogging.com)) continues to be used site wide, most recently in both Tank Farms and the Burial Ground.

Information on the MEGA TECH Blade Plunging Cutter and the TRUTECH NUCUT Cutter was provided to the Site Utilities Department for D&D activities.

The ROSC provided B-line personnel in H-area with Encapsulation Technology ETGS solution and a black light to leak test heat seals on nylon bags.

The ROSC showed personnel from the Tritium Extraction Facility (TEF) vacuum systems and Excel Scaffolding for potential use in their remote handling building.

The ROSC fixed LEAD-X, vinyl 1.0 mm thick shielding ([www.bar-ray.com](http://www.bar-ray.com)) to two different containers for an application in FB-Line. Also, Solid Waste Division was also provided with two, one foot square pieces of LEAD-X to shield nondestructive assay equipment.

The ROSC provided Solid Waste with a quart of Bartlett Strippable TLC Free ([www.bartlettinc.com](http://www.bartlettinc.com)) in an attempt to remove a spot of contamination in the facility.

**New Vendor Information, Equipment and Visits**

A pollution prevention audit team of EPA and SCDHEC personnel visited SRS. The team found that the efforts of waste minimization and pollution prevention were well integrated in work activities. The activities of the ROSC and paper pelletizer were highlighted as positives.

Citadel Technologies ([www.cittech.com](http://www.cittech.com)) demonstrated the Diamond Wrap pipe repair (see attached, slide 1). The pipe repairs performed at the ROSC are currently being hydrostatically tested. Expansion Seal Technologies ([www.thomasregister.com/expansionseal](http://www.thomasregister.com/expansionseal)) pipe tapping demonstration was conducted (see attached, slide 2). The tool facilitates tapping, sampling and draining the contents of pipe and pressure vessels. The tap is a simple bolt-on installation, no welding or pyrotechnics are needed.

Carolina Fluid Components ([www.cfcsite.com](http://www.cfcsite.com)) conducted a two demonstration of the 80/20 Industrial Erector Set, one in June and another in July (see attached, slide 3). The company fabricates aluminum framed structures ideal for radiological applications and containments. Other products ideal for operation, maintenance, and safety applications included: vacuum systems, thermoplastic injection molded quick-disconnect couplings for plastic tubing, pneumatic & electronic control devices to include safety door interlocks, and signaling technology.

In addition to the regularly scheduled classes, special classes in "Radiological Containment" and "Glove Bag Installation and Removal" training were conducted to train F-area personnel.

Software designers from MJW Corporation, Visual Survey Data Systems meet with Radiological Control and Information Technology personnel. The purpose was to review the survey data system as a potential site wide replacement for the home grown area specific systems.

**ALARA**

Solid Waste successfully implemented the use of Powered Air-Supplied Positive-Pressure Respirators (PAPRs) in a project to open a black box outer container and to repackage the inner containers. Prior to opening, potentially contaminated surfaces within the black box were coated using the passive aerosol generator.

The Radiological Improvement Strategic Plan is under final development.

The Personal Protective Equipment Advisory Group continues to work to mitigate heat stress during the conduct of out door work in the hot and humid south. PROTECH 2000 garments, the Eliminator Kool Vest, and the Kapler CPF1 suit are personal protective equipment that the advisory group supports for use on site.

**Coming Events of Interest**

Inventure Laboratories SAFEVAC Criticality Safe Vacuum System demonstration, sometime in August

**HANFORD**

Need information, visit their website (<http://www.hanford.gov/alara/>).

**Points of Contact**

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### **SRS ALARA Center (AC) August 2004 Activity Report**

Much has been accomplished in moving the operation support activities from building 315-M to the more site centralized confines of building 766-H. Look for the ALARA Center displays in rooms 1027 and 1031 and offices in room 2126.

#### **Assistance, Demonstrations, Research and Tours**

Need radiological operation support information, visit the website (<http://www.srs.gov/general/enviro/rosc/index.html>).

Assistance continues to be provided to the site effort to dispose of radiological sources and standards and to disposition excess radiological equipment to Oak Ridge and Homeland Security opportunities.

A second Passive Aerosol Generator was ordered from Generator Set Aside Funds for SRS use. With replaced transducers, the first generator continues to receive extensive site wide use in E, F and H-areas.

Information was provided to Mike Benjamin of CHEM Nuclear System, LLC on testing of vacuum systems with HEPA filters.

The ALARA Center is completing arrangements to move the rapid granulator and glove box previously provided from Los Alamos to Solid Waste in E-area. The original intent of the equipment is to volume reduce TRU waste potentially savings millions of dollars.

Citadel Technologies ([www.cittech.com](http://www.cittech.com)) demonstrated the Diamond Wrap pipe repair back in July. The pipe repairs performed satisfactorily during hydrostatic testing (see attached report). As a follow-up after the report, the 4 inch diameter elbow repaired assembly was sent to the High Pressure Test Lab. The witnessed hydrostatic pressure reached 2001 pounds per square inch before any leakage occurred. The leak was determined to have occurred in a Swagelok test fitting and was unrelated to the repaired assembly.

Points of contact at SRS for excess lead bricks and sheet lead to be used for shielding for nondestructive assay system were provided to Solid Waste in E-area.

F-area Closure Project was supported with an ALARA Center "road show" as part of the BBS Safety Science Fair. And, a 5-gallon container of BARLETT PBS was provided to facilitate immediate work.

The ALARA Center continues to support operations by facilitating orders from vendors. Most recently:

- TRUTECH NUCUT ([www.trutechllc.com](http://www.trutechllc.com)) cutter and accessories for FB-Line to volume reduce ladders and tube lock for disposal.
- DESCO clean and strip cutter hub for the walk behind DESCOBRADER to remove rust and contamination from twenty one inch thick steel sheets (4' by 8').
- A ten gallon kit of Sherwin Williams ENVIROLASTIC brush grade for H-Area Canyon.
- Three NFS-RPS 15 pounds per square foot lead blankets and one 24 inch by 48 inch 10 millimeters thick piece of LEAD-X (vinyl lead) for shielding application.
- Paper catch bags for the NILFISK GM-625 vacuum system for D&D.

#### **New Vendor Information, Equipment and Visits**

A pollution prevention audit team of EPA and SCDHEC personnel visited SRS. The team found that the efforts of waste minimization and pollution prevention were well integrated in work activities. The activities of the ROSC and paper pelletizer were highlighted as positives.

In addition to the regularly scheduled classes, special classes in "Radiological Containment" and "Glove Bag

Installation and Removal" training were conducted. As a part of the training, a description of ALARA Center activities is presented. And as a direct result of that, NIBBLER cutting equipment in support of operations was provided.

The EXCEL ([www.excelscaffold.com](http://www.excelscaffold.com)) scaffolding continues to be display in building 766-H, although it had to be modified to fit in a much smaller ceiling space. The scaffolding is unique in that erection requires few hand tools.

**ALARA**

The 2nd Quarter Radiological Performance Indicator Report has been published and can be found in the SRS ALARA website (<http://shrine01.srs.gov/eshqa/shops/alara/>).

The Personal Protective Equipment Advisory Group (PPEAG) continues to pursue PROTECH 2000 garments for use in hot/heat stress environments. At the August meeting, the PPEAG also reviewed/discussed the specification for flash arc resistant (orange) coveralls used in the conduct of radiological work, cool vests, and the use of the KAPPLER chemical suit.

**HANFORD**

Hanford received adjustable clamp and lubricants from CS UNITEC to use on mockup testing of their Saws-All. The adjustable clamp design was suggested to increase the number of cuts made in size reducing waste. Mockup testing the saws-all using the new lubricant worked outstanding. Two cuts through Schedule 40 stainless steel piping with 0.154" wall and the saw teeth showed very little sign of wear. In previous tests using water to cool the blade, the saw teeth turned red-hot if they weren't frequently sprayed with water. Using the lubricant developed by Boeing Airplane Co, the teeth did not change color. This combination of the CS UNITEC saw, the new blades and the Boeing lubricant should allow workers to make multiple cuts through stainless steel materials with out changing saw blades. Information on CS UNITEC can be found at [www.csunitec.com](http://www.csunitec.com) and the lubricant can be found by contacting ORELUBE Corporation at (516) 249-6500, <http://www.orelube.com/Boelube%20Liquids.htm>. Lessons Learned pertaining to "233-S Plutonium Concentration Facility Demolition" can be found on <http://www.hanford.gov/lessons/sitell/sitehome.htm>. The document listed in the reference section (i.e., Project Experience Report - Demolition of Hanford's 233-S Plutonium Concentration Facilities) relates many positive lessons learned from the successful open air demolition of the highly contaminated 233-S Plutonium Concentration Facility at Hanford. This was the first plutonium facility in the DOE Complex to have been demolished without first being decontaminated to near "free-release" criteria. Details and background information can be found in the full report.

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## **SRS ALARA CENTER (AC) SEPTEMBER 2004 ACIVITY REPORT**

The ALARA Center extends a special thanks to Al Goodwyn for his input on the logo (see attached). Logo promotes work all across the DOE complex especially at Hanford and Savannah River in the use of engineering controls in the conduct of radiological work.

### **ASSISTANCE, DEMONSTRATIONS, RESEARCH AND TOURS**

Need radiological operation support, visit the website (<http://www.srs.gov/general/enviro/rosc/index.html>).

Assistance continues to be provided to several site efforts to dispose of radiological sources and standards and to disposition excess radiological equipment to Oak Ridge and miscellaneous Homeland Security opportunities.

Provided the TRUTECH NUCUT video to Solid Waste for possible use in LANL related work. The video was made during a recent visit by Mike Douglas of TRUTECH ([www.trutechllc.com](http://www.trutechllc.com)), who provide engineering support to D&D activities. The NUCUT tool is a battery powered and uses a safer three bladed cutting head to strip pipe and conduit from buildings and structures prior to heavy demolition.

The ALARA Center continues to support operations by facilitating orders from vendors. Most recently:

- NFS-RPS metal containment building for CLAB and Safety and Health Project Services.
- NFS-RPS ([www.nfsrps.com](http://www.nfsrps.com)) lead blankets for Solid Waste.
- NILFISK vacuum systems of varying sizes and functions for support of future H-Tank Farm work.
- Cooling vests compliant with NFPA 70E flash arc requirements for site wide applications.
- Disposable protective clothing samples (OREX, G/O, VALLEN and TYVEK) to be used in the conduct of remediation work R-area seepage basin.

The ALARA Center provided points of contact for 1) Building Debris Roll-Off Liner containments and Super Sack packages for Environmental Restoration, 2) high density shielding materials [other than lead] for Spent Fuel Project; and, 3) disposition and potential reuse of radiation monitoring equipment [saving waste] for Spent Fuel Project.

D&D Operations Support was provided. The explosion proof 400 cubic feet per minute (MAC21) HEPA filtration unit on display in the ALARA Center was taken to the field to accommodate immediate work. Another unit will be ordered from NFS-RPS as a replacement. Also, a NILFIK GM-625 vacuum system was taken to the field.

D&D Operations Support was provided with a point of contact at WACHS tools ([www.wachsco.com](http://www.wachsco.com)). A tool is needed to expeditiously cut "bollards" (upright steel piping back filled with concrete, used to protect other necessary services such as fire hydrants, electrical transformers and above ground gas storage tanks) at or near ground level.

CLAB support was provided with information on polymetric barrier system (MSDS #21739-1), the Bartlett Services, Inc. ([www.bartlettinc.com](http://www.bartlettinc.com)) non-toxic, water based solution to control interim dispersion of contaminated materials.

Assistance continues to provide to the Heat Stress Team on PPE and other equipment pertinent to on site heat stress problems and initiatives. Recent meetings identified pros/cons of heat stress PPE/equipment used. The ALARA Center will review feedback to make preparations for next year's heat stress environments before it is too late to order new equipment that has a long delivery time.

The ALARA Center has available for use the SAIM BUBBLE GENERATOR (Sage Action, INC). The generator is a compact tool for producing helium-filled, neutrally buoyant bubbles of a controlled size for visualizing airflow patterns.

### **NEW VENDOR INFORMATION, EQUIPMENT AND VISITS**

Ty Finley of G/O Corporation ([www.gocorp.com](http://www.gocorp.com)) visited to offer various samples to the ALARA Center including PPE. Feedback from the field was provided that the room warning light might function better if actuated by a motion detector.

The students in the recent ALARA course for engineers visited the center. The visit provided a great opportunity for

the class to see and reach out and touch some of the innovative engineered solutions on display in the ALARA Center.

**ALARA**

The assessment of Manual 5Q1.1, Procedure 505, "ALARA Review" was completed. The purpose was to ensure compliance. Lines of Inquiry (LOIs) were developed with emphasis on procedure requirements and job planning practices. Facility ALARA Coordinators addressed each LOI as it pertained to their facility. Assessment results indicated:

- ALARA Coordinators are fully involved in the work planning/decision-making process.
- ALARA Coordinators assists in the preparation of Pre/Post-Job ALARA Reviews.
- ALARA reviews are performed for jobs that involve actual or anticipated work in areas of airborne radioactivity in excess of 10,000 DAC, when applicable.
- Asterisked items are commented on in the Pre-Job ALARA Review, but not in sufficient detail.
- Field RADCON Engineer involvement is not documented in the work package.

Procedure 5Q1.1-505 will be revised to address deficiencies identified.

**COMING EVENTS OF INTEREST**

NFS/RPS - John Shannon available for questions and answers on all products on 12-October  
EVEREST VIT - Display set up and demonstration to limited, user audience on 14-October

**HANFORD**

Radiological Engineering and Hanford ALARA Center personnel have discussed fixatives that could be used to fix alpha and beta-gamma contamination on old waste containers, which are presently located in a burial trench. Plan is to evaluate use of Polymeric Barrier System (PBS), CC-Wet, CC-Fix, aerosol fogging, and spraying with polyurea.

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## **SRS ALARA CENTER (AC) OCTOBER 2004 ACTIVITY REPORT**

The SRS ALARA WORKSHOP has been approved for May 2 - 4, 2005 at the Augusta Towers Hotel and Convention Center. Be looking in your mail for detailed information from the planning committee. We hope to see you in Augusta, GA next spring.

### **ASSISTANCE, DEMONSTRATIONS, RESEARCH, AND TOURS**

Need information or on site radiological operation support, visit the SRS ALARA Center website at <http://www.srs.gov/general/enviro/rosc/index.html>. Need information, visit the Fluor Hanford ALARA Center website at [www.hanford.gov/alara/](http://www.hanford.gov/alara/).

Assistance was provided to successfully transfer > \$750K worth of radiological equipment assets to Homeland Defense in Oak Ridge. And, assistance continues to be provided to disposition excess radiological equipment, radiological sources and radiological standards to the Federal Emergency Management Agency, National Disaster Medical System.

The ALARA Center provided support to Soil and Groundwater Closure Programs (SGCP) by assisting in the procurement of disposable personal protective equipment manufactured by G/O Corporation. SGCP plans to utilize disposable clothing while supporting work at R Reactor Seepage Basin. Heavy equipment will be cutting and grinding trees, brush, and leaf litter to put in compost piles.

CLAB was provided with information on Polymetric Barrier System (MSDS #21739-1). The Bartlett Services, Inc. ([www.bartlettinc.com](http://www.bartlettinc.com)) barrier is a non-toxic, water based solution to control interim dispersion of contaminated materials. Blue, white and clear 16 ounce samples are available in the Center.

The ALARA Center provided support to H-Tank Farm attempting to locate a more-or-less portable, stand alone carbon dioxide blasting machine for decontaminating a motor and agitator as it is being pulled from a high level waste tank. The use of the ALPHEUS portable unit from Spent Fuel was not thought to be appropriate. The motor and agitator may either be decontaminated through the use of a spray ring assembly as it is pulled or gently pulled then inserted in to near by tank with no decontamination.

Information from the Radiochemistry Society is available. Questions/Answers have been posted at their ASK THE EXPERT section at [http://www.radiochemistry.org/ask\\_expert/archives/index.html](http://www.radiochemistry.org/ask_expert/archives/index.html). Details of up coming events are posted at <http://www.radiochemistry.org/events.html>.

A tour of the ALARA Center has been added to the SRS ALARA training course for engineers. The feedback on the course has been positive from the student's perspective with the more esoteric material and practical applications in the field. Contact Bill Rigot for additional information.

The ALARA Center provided information regarding plastic chains used to post radiological areas and permanent markers for writing on tags outdoors. The results of a test conducted by Tritium Maintenance Operations at SRS concluded that the MARK-TEX Corporation, black, permanent ink, weather-resistant fiber-tipped pens performed the best.

The ALARA Center ordered 1.5 gram size bottles of LAB SAFETY ([www.lls.com](http://www.lls.com)) Flow Check Powder. The small bottle size makes it convenient for RADCON Inspectors to carry for verifying air flow directions. The ALARA Center recommended and facilitated the order for the use of 15 pounds per square foot lead blankets from NFS/RPS. The shielding will be used to reduce exposures at the front of a glove box in Solid Waste. Also, the Center provided F Area B-Line with lead aprons manufactured by Penn Jersey X-Ray ([www.pjxray.com](http://www.pjxray.com)).

The ALARA Center provided H Area B-line with several items. Two NILFISK vacuum systems on display were taken for immediate in-field use, a GM80 to collect contaminated concrete chips/dust and a VT60 to collect mercury. Also, the Center recommended the use of the DESCO ([www.descomfg.com](http://www.descomfg.com)) Electric FX Tool with dust collection system for removing contamination from a wall in H Area B-Line.

### **NEW VENDOR INFORMATION AND VISITS**

John Shannon of NFS-RPS ([www.nfsrps.com](http://www.nfsrps.com)) visited and was available for questions/answers concerning ventilation equipment and the use of an in-line flow indicator.

Ty Finley of G/O Corporation ([www.gocorp.com](http://www.gocorp.com)) visited and was available for questions/answers and sharing information on recent products, including PPE and a magnetic mounted swing gate.

## **ALARA**

The ALARA Coordinators toured the ALARA Center as a part of their quarterly meeting.

## **COMING EVENTS OF INTEREST**

- Todd Rockwell of Everest VIT ([www.everestvit.com](http://www.everestvit.com)) to set up display of remote inspection equipment in November
- Ralph Brittelli of BNFL Instruments ([www.bnflinstruments.com](http://www.bnflinstruments.com)) will demonstrate the operation of the RADSCAN 800 4 pi Gamma Imager in H-Tank Farm for 9-November
- Plastic suit demonstration for 16-November
- Ensource Technologies demonstration of the Alcatel 802.11i Wireless Communication System tentatively scheduled for 17-November

## **HANFORD**

Fluor Hanford plans to use a patented gel decontamination process, a gel mixing and spraying skid, and technical support for the cleanup of Plutonium contaminated glove boxes and vent hoods. The process works by spraying the surface to be decontaminated with the gel, which reacts with metals so that contaminants are leached out. The gel dries and becomes a powder than can be easily removed by vacuuming. No liquid waste is generated. The spray gun can be remotely operated using manipulators for cleaning up high radiation cells. The gel decontamination process may have applications.

For seeing through murky water in a fuel pool, Hanford recommended talking to Everest Visual Inspection Technologies who have infrared cameras that have a longer wave length than normal cameras and have had success in improving visibility in similar conditions.

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## **SRS ALARA CENTER (AC) NOVEMBER 2004 ACTIVITY REPORT**

**We plan to see you at the SRS ALARA WORKSHOP in Augusta, GA  
on May 2 - 4, 2005 at the Augusta Towers Hotel and Convention Center.**

### **ASSISTANCE, DEMONSTRATIONS, RESEARCH, AND TOURS**

Need information or radiological operation support, visit the SRS ALARA Center website at [www.srs.gov/general/enviro/rosc/index.html](http://www.srs.gov/general/enviro/rosc/index.html). Need information, visit the Fluor Hanford ALARA Center website at [www.hanford.gov/alara/](http://www.hanford.gov/alara/).

At the request of Site D&D, John Stouky of MEGATECH SERVICES demonstrated the operation of the blade plunging cutter (BPC- 4HD) in M-area. Pieces of the over head piping to be removed were cut during the demonstration (see the attached photograph). The tool was considered and is currently being used for this specific application because work space is too confined for a port-a-band saw.

Assistance continues to be provided to disposition excess radiological equipment, radiological sources and radiological standards to the Federal Emergency Management Agency, National Disaster Medical System. Reusing the equipment for its intended purpose is a cost savings as it avoids waste.

Guidance will be issued to RADCON offices shortly as to disposition of lead pigs that are not to be reused. Those lead pigs will be handled as an aggregate by Solid Waste.

The ALARA Center assisted Spent Fuels in a demonstration of the capabilities of the Passive Aerosol Generator. The demonstration was geared towards containing (making less mobile) contamination on activated metals being disposed of from the 105-L Disassembly Basin starting in January. The generator showed success in containing contamination in a clean mockup exercise (see the attached documentation).

The ALARA Center provided support to H-Tank Farm attempting to locate a more-or-less portable, stand alone carbon dioxide blasting machine for decontaminating a motor and agitator as it is being pulled from a high level waste tank. The use of the ALPHEUS portable unit from Spent Fuel was not thought to be appropriate. The motor and agitator was eventually decontaminated less aggressively with a water rinse/spray assembly as it was pulled then immediately inserted in a near by tank.

John Shannon of NFS-RPS ([www.nfsrps.com](http://www.nfsrps.com)) provided information in support of the caustic solvent extraction process.

Along with the Procurement and Industrial Hygiene Departments, the ALARA Center sponsored a demonstration of FRHAM SAFETY PRODUCTS ([www.frhamsafety.com](http://www.frhamsafety.com)) Delta Protection Air Supplied Plastic Suit. The use of the plastic suit is being considered for various site wide applications. Other safety items offered by FRHAM were also on display.

Along with the Procurement Department, the ALARA Center sponsored a demonstrated of the ALCATEL Wireless Communication System by ENSOURCE INC ([www.ensource.net](http://www.ensource.net)) and ALCATEL Government Solutions ([www.alcatel.com](http://www.alcatel.com)). The system has applications in warehouse telephone communications and networking in FB Line. The system is FIPS 140.2 certified.

Ralph Brittelli of BNFL INSTRUMENTS ([www.bnflinstruments.com](http://www.bnflinstruments.com)) demonstrated the operation of the RADSCAN 800 4 pi Gamma Imager. The imager remotely locates and efficiently characterizes gamma hot spots in a wide variety of environments including building surfaces, cells, and in/on glove boxes and process vessels. The instruments map and record the distributions and intensities of measured radiation using dosimetric data and real time images viewed at a distance.

The ALARA Center also provided:

- Information to Tritium personnel on packaging beryllium contaminated rods for disposal. Packaging to consider was simply roll stock plastic sleeve materials, available in a variety of widths.

- Field tests of three types of nylon threaded shrink wrap. Neither performed to the level expected.
- An input on 30 - 40 cfm glove bag filters for installation on training mock ups.
- To CLAB, recent ALARA Center experience on the durability of the Bartlett on poly metric barrier system (PBS) coating.
- And to DWPF, clear PBS was used to fix contamination in a lab fume hood.
- To Naval Fuels, bottles for collection of mercury with the NILFISK mercury vacuum.
- To HB Line, information on RADISHIELD shielding and the Makita 18-volt cordless saw to cut small items inside a glove box.
- To SGCP, H-Canyon and H-Tank Farm, G/O disposable coveralls for evaluation.

## **NEW VENDOR INFORMATION AND VISITS**

Todd Rockwell of EVEREST VISUAL INSPECTION TECHNOLOGIES ([www.everestvit.com](http://www.everestvit.com)) set up a display of remote inspection equipment in the ALARA Center. For seeing through murky water in a fuel pool, Hanford in the past has recommended talking to EVEREST whose infrared cameras have had success in improving visibility in similar conditions.

## **ALARA**

The 2004 Radiological Improvement Strategic Plan was approved and is available on the ALARA website on ShRINE. The plan identifies key strategies for safely improving the radiation protection program and enhancing cost effectiveness. The key strategies include:

- Radiological Engineering
- Radiation and Contamination Control Training
- Optimization of Radiological Operations
- Radiological Control Staffing
- Deactivation and Decommissioning

## **HANFORD**

- Want help on fixatives, foam and engineering controls for demolishing radioactive facilities, see reports at <http://graylit.osti.gov/cgi-bin/dexpldcgi?gry2035570950;89> .
- Testing concentrations (100%, 60/40% and 50/50%) of PBS to water for sealing glove boxes prior to size reduction, a portable sprayer with full strength 100% PBS solution sealed the best.

## **POINTS OF CONTACT**

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**SRS ALARA CENTER (AC)  
DECEMBER 2004 ACTIVITY REPORT**

**We plan to see you at the SRS ALARA WORKSHOP in Augusta, GA  
on May 2 - 4, 2005 at the Augusta Towers Hotel and Convention Center.**

**ASSISTANCE, DEMONSTRATIONS, RESEARCH, AND TOURS**

The ALARA Center webpage is in the process of being updated. Need information or radiological operation support, visit the website at [www.srs.gov/general/enviro/rosc/index.html](http://www.srs.gov/general/enviro/rosc/index.html). And for the Fluor Hanford ALARA Center, visit their website at [www.hanford.gov/alara/](http://www.hanford.gov/alara/).

Industrial Safety display space in Room 1031 is being allocated to significant others. Be looking in the near future for a display of various products and applications.

The ALARA Center recommended a vendor for 1 foot by 4 foot lead blankets to be used by Solid Waste shielding a glove box.

The ALARA Center provided assistance to Defense Waste Processing Facility in job planning to remove glass build up in a bellows assembly. A needle gun will be used with a HEPA filtered vacuum system to minimize airborne activity.

Tritium is currently using the Helium bubble generator from the ALARA Center to perform air migration studies. The Helium bubbles are less likely to adversely affect alarms/monitors than conventional smoke generators.

The ALARA Center personnel continue to support training opportunities, most recently in Radiological Containment training here in H-area and Passive Aerosol Generator training in L-area.

The ALARA Center and Radiological Technical Services provided Special Projects in Spent Fuel with containment and ventilation support. The different type containment huts are being used to control contamination at the source when opening casks at the RBOF Cask Pad (080-13G).

The ALARA Center provided input to the proper 30 - 40 cfm HEPA filters to procure for use in glove bag mock ups used here in building 766-H. And, an input was provided to H-Canyon Operations on a NILFISK 3507 vacuum to be used to lift a sand type, radioactive material to a height in excess of 9 feet.

In order to eliminate each individual facility from having to manage a hazardous waste, Solid Waste is attempting to coordinate an effort to dispose of the remaining lead pigs that were used as a part of an antiquated beta counting systems in various Radiological Control count rooms. These beta counting system have for the most part been replaced by newer technologies.

**NEW VENDOR INFORMATION AND VISITS**

Spoke with Robert Walcheski ([rwalcheski@uesi.com](mailto:rwalcheski@uesi.com)) at S.G. PINNEY [(772) 337-3080] about a two part UT15 coating used at Idaho National Lab in D&D of spent fuel pools. The coating can be applied underwater. Coating contains the carcinogen, MDA. The coating is marketed as part of a service and not as an individual product. Service has provided repairs of coatings at commercial nuclear plants and DOE facilities.

Spoke with Steve Martinson ([smartinson@polestar.com](mailto:smartinson@polestar.com)) of POLESTAR. They have used BIODUR560 coating/fixative that can be applied underwater that does not contain the carcinogen MDA.

Spoke with R.L. MUSSMAN Corporation ([www.RLMussman.com](http://www.RLMussman.com)) on shielding for two transfer lines to Saltstone.

Todd Rockwood with EVEREST VIT ([www.everestvit.com](http://www.everestvit.com)) visited the ALARA Center and placed a XL PRO VIDEO PROBE system on display. This is a portable and modular remote visual inspection system much like that used in the tank farms.

**ALARA**

The Site ALARA Committee met in December. The meeting focused on the 2005 ALARA Goals and included a tour of the ALARA Center. For additional ALARA information, visit the internal to SRS website at <http://shrine01.srs.gov/eshqa/shops/alara/>.

The Personal Protective Equipment Advisory Group met in December. The meeting focused on disposable coveralls and aprons, hand and finger protection, and defining work clothes.

## **HANFORD**

- Want a cutting blade lubricant approved for use inside Plutonium glove boxes, see [www.csunitec.com](http://www.csunitec.com) for PROLUBE.
- Want a fixative to control contamination spread, try "FixativeLP3". It can be applied like paint and is non-hazardous, non-flammable, and UV-ray resistant. It cures in an hour and is totally dry in 8 hours.
- FEVDI is a non-toxic, non-hazardous, contains no carcinogens fixative that dries to a hard shell coating. While the cost of FEVDI is greater than PBS of Bartlett Nuclear Services, workers applying the product will wear less protective clothing and the final product may have as good or better characteristics for D&D work.
- Lessons learned by Team Concepts Engineering during D&D at DOE sites include: 1) plasma arc cutting can be expensive to replace HEPA filter on vent systems; 2) apply a wetting agent over loose contamination before applying a fixative; and, 3) common foams expand 30 times its volume and stops expanding in 122 seconds. Team Concepts can be reached at (720) 929-0925.

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